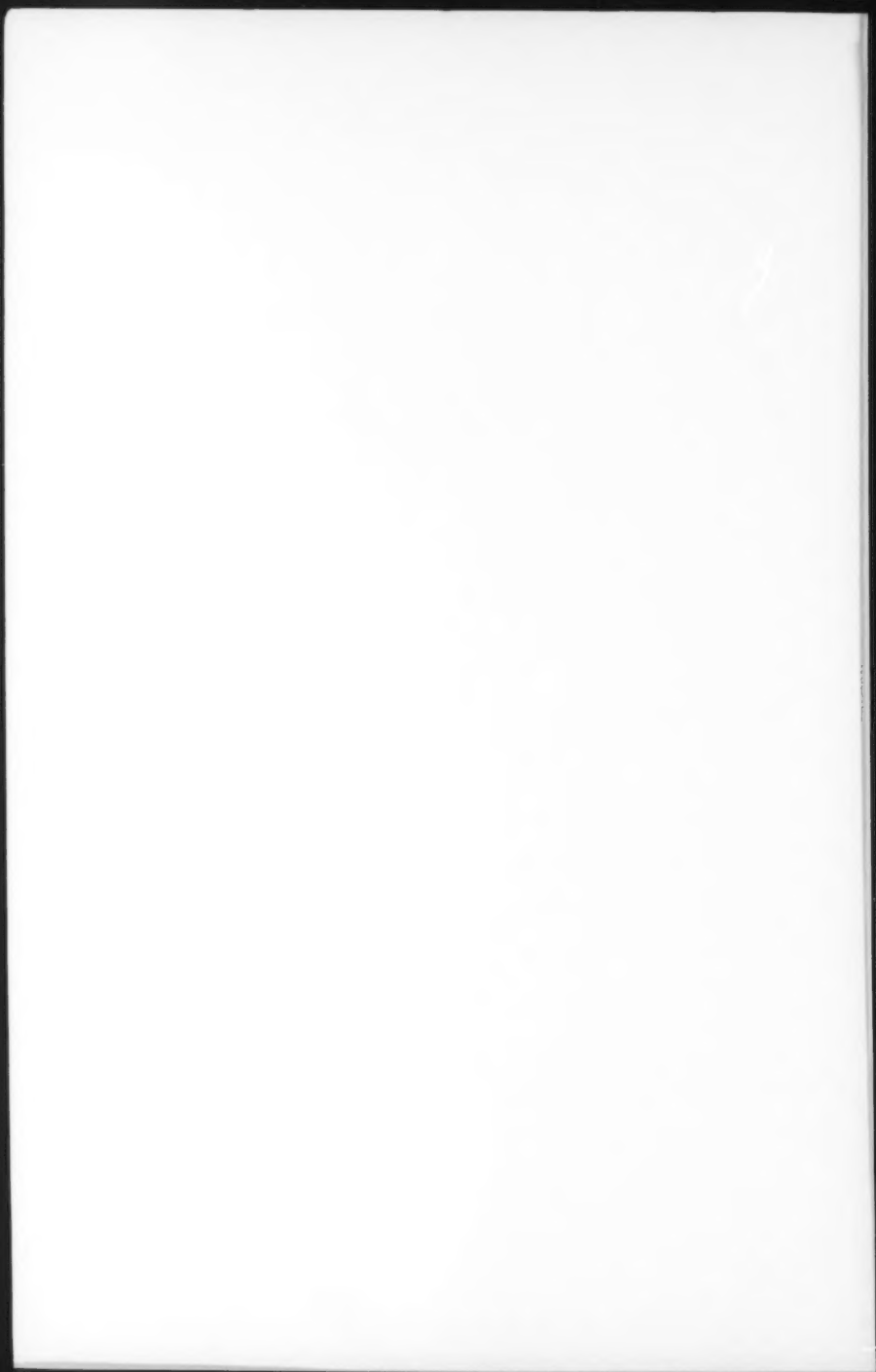


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FOREWORD

The 1977 index, which provides a guide to information published by ASCE during 1977, combines material appearing in the Journals (Proceedings Vol. 103), CIVIL ENGINEERING (Vol. 47), Transactions (Vol. 142), Manuals and Reports, and Special Publications.

The user will find all articles and papers dealing with specific subject areas listed under one or more appropriate subject headings suggested by the content and application of the paper. The Engineers Joint Council "Thesaurus of Engineering Terms" has been used as the primary source of index terms. The Water Resources Thesaurus of the U.S. Department of the Interior and the Micro-Thesaurus compiled by the Soil Mechanics and Foundations Division of ASCE were also used.

The Index can be used in conjunction with the information-retrieval cards printed in the front of each Journal and to the rear of CIVIL ENGINEERING. The bold key words on the information-retrieval cards are the words used as index terms in the 1977 Index.

The name index contains entries indexed under the names of author, co-authors, discussers, chairmen of committees preparing reports, and deceased members whose memoirs appeared in Transactions.

In the name index, the entry for a Proceedings Paper (under the first name if more than one author) is supplemented by information concerning the discussion, closure, and Transactions digest, if applicable. To find what discussion, if any, there has been for a Proceedings Paper located in the subject index, the reader looks under the entry for the first-named author in the name index. When discussion of a paper from a prior year is published, the original entry is repeated. Discussion over a period of time can be traced until the closure to the paper is located.

When the paper appears in Transactions, the complete entry including original paper, discussion, closure, errata (if applicable), and Transactions citation appears in the name index.

Typical abbreviations used herein are:

- Dsc for discussion
- Clo for closing discussion
- Corr for corrections
- Err for errata

Chmn for Chairman of a committee submitting a report
TR for Transactions
TN for Technical Note

Items indexed from ASCE Special Publications have the following symbols in the references:

1. UT-76—Urban Transportation Efficiency, Specialty Conference of the Urban Transportation Division, July 26-27, 1976
2. CE15—Proceedings of the Fifteenth Conference on Coastal Engineering, 1976
3. PAC77—Specialty Conference on Ethics, Professionalism and Maintaining Competence, March 10-11, 1977, Columbus, Ohio
4. WW77A—Ports '77. Specialty Conference of the Waterway, Port, Coastal and Ocean Division, March 9-11, 1977, Long Beach, Calif.
5. ETH75—Conference on Engineering Ethics, May 18-19, 1975, Baltimore, Md.
6. PROD—The Civil Engineer's Role in Productivity in the Construction Industry, Vol. 2, 1976
7. RM16—Design Methods in Rock Mechanics, 16th Symposium on Rock Mechanics, September 22-24, 1975, Minneapolis, Minn.
8. GT77—Geotechnical Practice for Disposal of Solid Waste Materials, Specialty Conference of the Geotechnical Engineering Division, June 13-15, 1977, Ann Arbor, Mich.
9. GTAW—Award-Winning ASCE Papers in Geotechnical Engineering, 1950-1959, 1977
10. EM77—Advances in Civil Engineering Through Engineering Mechanics, 2nd Annual Engineering Mechanics Specialty Conference, North Carolina State Univ., May 23-25, 1977, Raleigh, N.C.
11. EFLA—Land Application of Residual Materials, Engineering Foundation Conference, September 26-Oct. 1, 1976, Easton, Md.
12. GT76—Rock Engineering for Foundation and Slopes, Specialty Conference of the Geotechnical Engineering Division, Boulder, Colo., August 16-18, 1976, Vol. II.
13. EFSGS—Shotcrete for Ground Support, Engineering Foundation Conference, October 4-8, 1976, Easton, Md.
14. IR77—Water Management for Irrigation and Drainage, Specialty Conference of the Irrigation and Drainage Division, July 20-22, 1977, Reno, Nev.
15. EFCAUD—Guide for Collection, Analysis, and Use of Urban Stormwater Data, Engineering Foundation Conference, Nov. 28-Dec. 3, 1976, Easton, Md.
16. SCCB—State-of-the-Art Report on Composite or Mixed Steel-Concrete Construction for Buildings, 1977

17. HY77—Hydraulics in the Coastal Zone, Specialty Conference of the Hydraulics Division, August 10-12, 1977, College Station, Texas
18. LE77—The Current State of Knowledge of Lifeline Earthquake Engineering, Specialty Conference of the Technical Council on Lifeline Earthquake Engineering, August 30-31, 1977, Los Angeles, Calif.
19. EFEDS—The Evaluation of Dam Safety, Engineering Foundation Conference, November 28-December 3, 1976, Pacific Grove, Calif.
20. AT77—1977 International Air Transportation Conference, April 3-6, 1977, Washington, D.C.
21. CS77—Coastal Sediments '77, Specialty Conference of the Waterway, Port, Coastal and Ocean Division, November 2-4, 1977, Charleston, S.C.
22. STC—International Colloquium on Stability of Structures Under Static and Dynamic Loads, May 17-19, 1977, Washington, D.C.

Preprints are indicated by the words Preprint and the preprint number and date. They were presented at ASCE National Meetings as follows:

<i>Preprints</i>	<i>Meeting</i>	<i>City</i>	<i>Date</i>
2822-2911	National Convention	Dallas, Texas	April 25-29, 1977
2912-3104	National Convention and Exposition	San Francisco, Calif.	Oct. 17-21, 1977

Journal Abbreviations: Construction (CO), Engineering Mechanics (EM), Environmental Engineering (EE), Geotechnical Engineering (GT), Hydraulics (HY), Irrigation and Drainage (IR), Power (PO), Structural (ST), Surveying and Mapping (SU), Technical Councils (TC), Transportation Engineering (TE), Urban Planning and Development (UP), Waterway, Port, Coastal and Ocean Engineering (WW), Water Resources Planning and Management (WR). Papers sponsored by the Department of Professional Activities appear in "Engineering Issues—Journal of Professional Activities" and are identified by the symbols (EI). Papers appearing in the Transportation Engineering Journal of ASCE include papers approved by the Aerospace, Air Transport, Highway, Pipeline and Urban Transportation Divisions. Papers appearing in the Journal of the Technical Councils of ASCE include papers approved by the Technical Councils on Codes and Standards, Computer Practices, Lifeline Earthquake Engineering, and Research.

The original publication can be found from the index entry as follows: Papers appearing in the Journals (Proceedings) are listed as:

GT9:Sept 77:935:13223

which would indicate a paper published in the Journal of the Geotechnical Engineering Division, September 1977 on page 935, as Proceedings Paper 13223.

The Transactions entry

TR:142:452

indicates that the Digest appears in Transactions, Volume 142, on page 452.

Articles and news items published in CIVIL ENGINEERING are represented as:

CE:May 77:79

Which states that the article appeared in CIVIL ENGINEERING in the May 1977 issue on page 79.

In addition to articles, the following Departments of CIVIL ENGINEERING are indexed: ASCE News, Engineers Notebook, The Readers Write, and The Younger Viewpoint.

Items indexed from Vol. 103 (1977) of the Journals are identified by months. The number of Journals published by a Division in 1977 can be obtained from the number after the last Division abbreviation i.e., GT12, Dec. 1977 identifies the twelfth issue of the Journal of the Geotechnical Engineering Division. The complete list of paper numbers and Journals for 1977 is as follows:

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Jan.	12649-12701				1	1	1			1			1			
Feb.	12702-12762		1	1		2	2			2					1	
Mar.	12763-12827	1				3	3	1		3			2			
Apr.	12828-12894		2	2	2	4	4			4						
May	12895-12955					5	5			5			3		2	1
June	12956-13023	2	3	3		6	6	2		6						
July	13024-13091				3	7	7		1	7			4	1		
Aug.	13092-13162		4	4		8	8			8					3	
Sept.	13163-13242	3				9	9	3		9	1		5			
Oct.	13243-13306		5	5	4	10	10			10						
Nov.	13307-13372					11	11			11			6		4	2
Dec.	13373-13447	4	6	6		12	12	4		12		1				

This annual index has been composed using magnetic tapes of all 1977 entries. To make future issues more useful, interested persons should submit their suggestions for further improvement to:

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- Bond Failure and Inelastic Response of Concrete, Rene B. Testa and Norris Stubbs, EM2:Apr 77:296:12866
- Compaction of Graded Aggregate Bases and Subbases, Charles R. Marek, TE1:Jan 77:103:12692
- Econcrete, Harold J. Halm, Preprint No.2845, Apr 77, 29pp.
- Fifty-Year Developments in High Strength Concrete, Colin D. Johnston, CO4:Dec 75:801:11757
- Gap-Graded Concrete for Paving Construction, Ram Kinkar Ghosh and Mukul Ranjan Chatterjee, CO1:Mar 76:227:11988
- Highway Construction Use of Incinerator Residue, Robert Joseph Collins, GT77:June 77:246
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- Synthetic Aggregate From Incinerator Residues, Horace R. Blank, EM1:Feb 76:31:11898

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- Time-Dependent Behavior of Undisturbed Clay, Yoginder P. Vaid and Richard G. Campanella, GT7:July 77:693:13065

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- Constitutive Law for Nonlinear Creep of Concrete, Zdenek P. Bazant and Ali A. Asghari, EM1:Feb 77:113:12729

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- Effluent Irrigation of Rye and Ryegrass, Allen R. Overman and Hsiao-Ching Ku, EE2:Apr 76:475:12035

- Keeping Trickle Irrigation Systems Operational, James C. Schaper, IR77:July 77:1-394

- Sprinkler Uniformity Measures and Skewness, Fazal H. Chaudhry, IR4:Dec 76:425:12620

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- Deficit High-Frequency Irrigation of Sugarbeets, Wheat, and Beans, D. E. Miller, IR77:July 77:1-269

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- Areawide Waste Treatment Management of Nonpoint Pollution, Paul E. Barker, Preprint No.2844, Apr 77, 18pp.

- California's Food Industry: Wastewater Management Challenge, Ronald A. Tsugita, Robert H. Ellis and Christine A. Kahr, CE:Sept 77:62

- Feedlot Wastes to Useful Energy — Fact or Fiction?, Lawrence A. Schmid, EE5:Oct 75:787:11647

- Impact of State Laws and Regulations on Animal Waste Disposal Practices, George A. Whetstone, Dan M. Wells and Bruce M. Kramer, IR77:July 77:1-117

- A Program to Identify and Control Pollution from Agricultural Drainage, R. E. Merrill, Ronald M. Van De Pol and W. E. Ryley, Preprint No.3069, Oct 77, 19pp.

- Salt Removal Efficiencies on Land Disposal of Swine Waste, Harold E. Grier, Gian C. Gupta and Suresh C. Tiwari, EE4:Aug 77:551:13117

- 208: A Process for Water Quality Management, Mark A. Pisano, CE:Nov 76:55

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- Nonpoint Source Pollution from Agricultural Runoff, Douglas A. Haith and John V. Dougherty, EE5:Oct 76:1055:12481

- Water Yield Model Using SCS Curve Numbers, Jimmy R. Williams and William V. LaSeur, HY9:Sept 76:1241:12377

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- Estimating Stock Water Use in Rural Water Systems, Robert S. Schulz and T. Al Austin, HY1:Jan 76:15:11843

- Groundwater Contamination from Fertilizer Nitrogen, Harold R. Duke, Darryl E. Smika and Dale F. Heermann, Preprint No.3003, Oct 77, 14pp.

- Keeping Trickle Irrigation Systems Operational, James C. Schaper, IR77:July 77:1-394

- People's Republic of China — A Look Inside, CE:Jan 77:61

- A Program to Identify and Control Pollution from Agricultural Drainage, R. E. Merrill, Ronald M. Van De Pol and W. E. Ryley, Preprint No.3069, Oct 77, 19pp.

- Quality Aspects of Agricultural Runoff and Drainage, Sheldon Kelman, Chmn., IR4:Dec 77:475:13439

- Water Treatments in Trickle Irrigation Systems, F. S. Nakayama, R. G. Gilbert and D. A. Bucks, Preprint No.2835, Apr 77, 28pp.

- 2020 Hindsight; Another Fifty Years of Irrigation?, Daniel A. Dreyfus, IR2:June 75:87:11363

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- Air Diffusion through Membranes in Triaxial Tests, Wayne S. Pollard, Dwight A. Sangrey and Steve J. Poulos, TN: GT10:Oct 77:1169:13250

- Peaking Power from Stored Air, A. Stanley Stys, CE:Jan 77:48

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- Water to Air Bacterial Transfer by Bursting Bubbles, D. Wozniak, M. Kiwak, C. Cahoon and Robert H. Edgerton, EE3:June 76:567:12197

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- Concepts for Wake Vortex Prediction and Avoidance Systems (Abstract), Hector Daiutolo, AT77:Apr 77:243
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- Engineers, Ethics and Economics, K. Vandivier, ETH75:May 75:20
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- Dispersion of Pollutants in Automobile Wakes, Dennis D. Lane and James J. Stukel, EE3:June 76:571:12189
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 Public Affairs in the Civil Engineer: A Guideline for Accomplishment, Jewell T. Wood, EI3:July 76:339:12262

ASCE (Salaries and Fees)

Program for Implementation of ASCE Salary and Fringe Benefit Guidelines for the Los Angeles Section, Thomas S. Maddock, Preprint No.2967, Oct 77, 21pp.
 Report on Employment, John J.P. Krol, EI2:Apr 77:141:12855
 1975 ASCE Salary Survey, Schaefer J. Dixon, Chmn., EI2:Apr 76:225:12090

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California Coastal Commission Accepts Advice from ASCE on Earthquake Design Controversy, Samuel H. Clark, CE:May 76:85
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 The King's Road: National Historic Civil Engineering Landmark, James H. Schaub, EI3:July 77:217:13037
 Program for Implementation of ASCE Salary and Fringe Benefit Guidelines for the Los Angeles Section, Thomas S. Maddock, Preprint No.2967, Oct 77, 21pp.
 Toward A More United ASCE, Elmer B. Isaak, EI1:Jan 76:7:11859

ASCE (Service to Members)

Program for Implementation of ASCE Salary and Fringe Benefit Guidelines for the Los Angeles Section, Thomas S. Maddock, Preprint No.2967, Oct 77, 21pp.
 Report on Employment, John J.P. Krol, EI2:Apr 77:141:12855

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The Use of the Dryer Drum, Charles R. Foster, Preprint No.2843, Apr 77, 7pp.

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Plastic-Reinforced Asphalt Seepage Barrier, Ronald K. Frobel and C. Brent Cluff, IR3:Sept 76:369:12430
The Use of the Dryer Drum, Charles R. Foster, Preprint No.2843, Apr 77, 7pp.

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Arctic Refraction Study, Gerald W. Johnson, SU1:Dec 76:1:12602

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Seismic Behavior of Frozen-Thawed Profiles, Sukhmander Singh and Neville C. Donovan, Preprint No.3011, Oct 77, 16pp.
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Barrier Island Dynamics: Overwash Processes and Eolian Transport, Stephen P. Leatherman, CE15:July 76:1958

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Longshore Transport at a Total Littoral Barrier, Richard O. Bruno and Christopher G. Gable, CE15:July 76:1203

Process and Morphology Characteristics of Two Barrier Beaches in the Magdalen Islands, Gulf of St. Lawrence, Canada, E. H. Owens, CE15:July 76:1975

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Evaluation of a Barrier Against Seawater Intrusion, John S. Angus, HY77:Aug 77:187

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Environmental Impacts of BART and People's Responses, Donald L. Graff and Robert L. Knight, Preprint No.3099, Oct 77, 28pp.

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Management of Large Projects — Management of Design — BART Project, David G. Hammond, Preprint No.3041, Oct 77, 19pp.

Professionalism, Ethics and the Public Welfare, Roy W. Anderson, ETH75:May 75:8

The Regional Economic and Fiscal Impacts of BART, Richard Greffe and Angus N. McDonald, Preprint No.3101, Oct 77, 23pp.

Social Impacts of BART Service, David Minkus, Preprint No.3103, Oct 77, 18pp.

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Tsunami Elevation Predictions from Numerical Models, James R. Houston and Andrew W. Garcia, Preprint No.2996, Oct 77, 26pp.

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Sediment Transportation and Deposition Models for Mobile Bay, Alabama, Gary G. April, Samuel Ng and C. Everett Brett, CE15:July 76:2092

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Barneget Inlet, Nature Prevails, Lewis A. Caccese and Henry R. Spies, CS77:Nov 77:305

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Beach and Dune Response to Hurricane Eloise of September 1975, T. Y. Chiu, CS77:Nov 77:116

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 Breakwater Subject to Heavy Overtopping — Concept, Design, Construction and Experience, Omar J. Lillevang, WW77:Mar 77:II-61

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- Design, Analysis and Field Test of a Dynamic Floating Breakwater, D. J. Agerton, G. H. Savage and K. C. Stotz, CE15:July 76:2792
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- Headland Defense of Coasts, Richard Silvester, CE15:July 76:1394
- In-Situ Undrained Shear Strength of Two Marine Clays, Demetrios Koutsotas and Joseph A. Fischer, GT9:Sept 76:989:12431
- Laboratory Study of Pervious Core Breakwaters, Hideo Kondo, Satoshi Toma and Kenji Yano, CE15:July 76:2643
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- Sediments Impounded by an Offshore Breakwater, Richard O. Bruno, George M. Watts and Christopher G. Gable, CS77:Nov 77:1006
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- Brick Masonry**
- Estimating Masonry Wall and Column Costs, Clayford T. Grimm, CO4:Dec 77:627:13413
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- Design for Differential Movement in Brick Walls, Clayford T. Grimm, ST11:Nov 75:2385:11739
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- Full-Scale Lateral Load Tests of Pile Groups, Jai B. Kim and Robert J. Brungraber, GT1:Jan 76:87:11849
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- Bibliography and Data on Cable-Stayed Bridges, Chris S.C. Yiu, Chmn., ST10:Oct 77:1971:13286
- Erection Strength Adequacy of Long Truss Cantilevers, Jackson L. Durkee and Spiro S. Thomaidis, ST1:Jan 77:225:12698
- Falsework Eliminated in Bridge Erection, Gene K. Hallock, CE:Nov 76:58
- New River Gorge Bridge: World's Longest Steel Arch, Clarence V. Knudsen, CE:Feb 77:53
- The Schuykill River — A Major Crossing, Hertel C. Missimer, Preprint No.2831, Apr 77, 25pp.
- Short Span Bridge Superstructural Systems, Hota V.S. GangaRao and Narendra B. Taly, Preprint No.2839, Apr 77, 30pp.
- Time-Dependent Stresses in Continuous Precast Bridges, Walter H. Diger and Amin Ghali, CO1:Mar 76:239:11964

Bridge Decks

- Landmark Erie Canal Structure Rehabilitated, Lawrence H. Lehman, Bertram Shapiro and Robert J. Trapani, CE:Oct 76:62
- Plastic Analysis of Orthotropic Skew Metallic Decks, John B. Kennedy and Pijush K. Chowdhury, ST3:Mar 77:533:12776
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- Vibration Analysis of Plate-Grid Decks, Debasish K. Roy and Donald L. Dean, EM77:May 77:185

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- Environmentally Induced Bridge Stresses, J. Leroy Hulsey and Jack H. Emanuel, EM77:May 77:490
- Laminated Timber Logging Bridges in British Columbia, Richard G. Scarisbrick, ST1:Jan 76:19:11832
- Shear Lag in Shallow Wide-Flanged Box Girders, Karl Van Dalen and Sanivarapu V. Narasimham, ST10:Oct 76:1969:12449
- Stress Ribbon Bridge in Freiburg, Germany, Man-Chung Tang, CE:May 76:75

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- Retrofitting Highway Structures to Increase Seismic Resistance, Oris H. Degenkolb, LE77:Aug 77:97
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- Railroads, Truss Bridges and the Rise of the Civil Engineer, Donald C. Jackson, CE:Oct 77:97

Bridge Foundations

- Effect of Sediment Gradation on Clear Water Scour, Arved J. Raudkivi and Robert Ettema, TN:HY10:Oct 77:1209:13251
- Full-Scale Lateral Load Tests of Pile Groups, Jai B. Kim and Robert J. Brungaber, GT1:Jan 76:87:11849

Bridge Load Rating Signs

- How to Evaluate Bridges for Overloads — ASAP, Kenneth R. White and John Minor, Preprint No.2827, Apr 77, 11pp.

Bridge Location

- Bibliography and Data on Cable-Stayed Bridges, Chris S.C. Yiu, Chmn., ST10:Oct 77:1971:13286

Bridge Maintenance

- George Washington Bridge Redecked with Prefabricated, Prepaved Steel Panels, Eugene J. Fasullo and Daniel M. Hahn, CE:Dec 77:57

Bridges

- Model Studies of Multicell Curved Box-Girder Bridges, Mohammad Aslam and William G. Godden, EM3:June 75:207:11366
- What Happened at Dallas?, CE:July 77:66

Bridges (Arch)

- Art in Engineering - The Need for a New Criticism, David P. Billington, PP4:Oct 73:499:10102
- Concrete Bridge-Tunnel Has No Deck, Paul A. deNapoli, CE:Apr 77:75
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- Least Cost Design of Two-Hinged Highway Arch Ribs, Leroy L. Friel, Preprint No.2891, Apr 77, 12pp.

- New River Gorge Bridge: World's Longest Steel Arch, Clarence V. Knudsen, CE:Feb 77:53

Bridges (Box Girder)

- First Bridge Across the Yukon River, Lawrence Carlson, Roy C.J. Dreyer and Rodney Platzke, CE:Aug 76:47
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- Model Study of Horizontally Curved Box Girder, Adel R.M. Fam and Carl J. Turkstra, ST5:May 76:1097:12151
- Rio-Niteroi Bridge Features Record Girder Span, Gerald F. Fox and H. James Graham, CE:Apr 76:86
- Shear Lag in Shallow Wide-Flanged Box Girders, Karl Van Dalen and Sanivarapu V. Narasimham, ST10:Oct 76:1969:12449
- Strength of Steel Box-Girder Bridges, Patrick J. Dowling, ST9:Sept 75:1929:11550
- Structural Response of Curved RC Box-Girder Bridge, Alexander C. Scordelis and Per K. Larsen, ST8:Aug 77:1507:13112
- Ultimate Strength of Curved RC Box Girder Bridge, Alexander C. Scordelis, Per K. Larsen and Lennart G. Elfgrén, ST8:Aug 77:1525:13113

Bridges (Cable-Stayed)

- Analysis of Cable-Stiffened Space Structures, Nicholas F. Morris, ST3:Mar 76:501:11998
- Bibliography and Data on Cable-Stayed Bridges, Chris S.C. Yiu, Chmn., ST10:Oct 77:1971:13286
- Buckling of Cable-Stayed Girder Bridges, Man-Chung Tang, ST9:Sept 76:1675:12391
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- Tentative Recommendations for Cable-Stayed Bridge Structures, Walter Podolny, Jr., Chmn., ST5:May 77:929:12933

Bridges (Cantilever)

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- World's Third Longest Cantilever Bridge, Ichiro Konishi, CE:Feb 76:84

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- History and Esthetics in Concrete Arch Bridges, David P. Billington, ST11:Nov 77:2129:13351
- Model Studies of Multicell Curved Box-Girder Bridges, Mohammad Aslam and William G. Godden, EM3:June 75:207:11366

- Model Study of New Standard Prestressed Concrete Bridge, Barrington deV. Batchelor, T. Ivan Campbell, Douglas W. McEwen and Paul Csagoly, ST9:Sept 76:1789:12417
- Philadelphia Bridge Sparked Growth of Prestressed Concrete in the U.S., CE:Oct 77:118
- Prestressed Concrete Bridges, Brice F. Bender, COI: Mar 77:113:12816
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- Time-Dependent Stresses in Continuous Precast Bridges, Walter H. Dilger and Amin Ghali, COI: Mar 76:239:11964

Bridges (Decking)

- Alternate Bidding Takes the Guessing Out of Bridge Deck Rehabilitation Programs, Robert J. Trapani, Preprint No.2942, Oct 77, 14pp
- Application of the Minicomputer in Measurement, Analysis, and Control of Structural Testing by BUREC, Carl E. Selander and Lynn R. Carpenter, Preprint No.2950, Oct 77, 13pp
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- Response of Suspension Bridges to Storm Winds, Robert H. Scanlan, EM77:May 77:234

Bridges (Girder)

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- Multispan Stayed Girder Bridges, Niels J. Gimsing, ST10:Oct 76:1989:12470

Bridges (Highway)

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- Evaluation of Load Factor Design of Steel Bridges, Madan Mohan Gupta and Leroy L. Friel, Preprint No.2951, Oct 77, 18pp
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- Field Impregnation Techniques for Highway Concrete, Wai F. Chen, Harshavardhan C. Mehta, John A. Manson and John W. Vanderhoff, TE3: May 77:355:12904
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- Service Load and Fatigue Tests on Truss Bridges, Hotten A. Elleby, Wallace W. Sanders, Jr., F. Wayne Klaiber and M. Douglas Reeves, ST12:Dec 76:2285:12625

- Short Span Bridge Superstructural Systems, Hota V.S. GangaRao and Narendra B. Taly, Preprint No.2839, Apr 77, 30pp
- Superloads on Highway Bridges in Southern Africa, Michael A.G. Duncan, ST11:Nov 77:2165:13347

Bridges (Lift)

- Fifty-Year History of Movable Bridge Construction - Part I, Egbert R. Hardesty, Henry W. Fischer and Richard W. Christie, CO3:Sept 75:511:11565

Bridges (Movable)

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Bridges (Orthotropic)

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- George Washington Bridge Redecked with Prefabricated, Prepped Steel Panels, Eugene J. Fasullo and Daniel M. Hahn, CE:Dec 77:57
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- Effect of Sediment Gradation on Clear Water Scour, Arved J. Raudkivi and Robert Ettema, TN: HY10: Oct 77:1209:13251
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Bridges (Railroad)

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Bridges (Spans)

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- Short Span Bridge Superstructural Systems, Hota V.S. GangaRao and Narendra B. Taly, Preprint No.2839, Apr 77, 30pp

Bridges (Steel)

- Evaluation of Load Factor Design of Steel Bridges, Madan Mohan Gupta and Leroy L. Friel, Preprint No.2951, Oct 77, 18pp
- Fatigue and Fracture of Bridge Steels, Richard Roberts and George R. Irwin, ST2:Feb 76:337:11913
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- Strength of Steel Box-Girder Bridges, Patrick J. Dowling, ST9:Sept 75:1929:11550
- Stress Cycles for Fatigue Design of Railroad Bridges, Roman Wolchuk and Ronald M. Mayrbauri, ST1: Jan 76:203:11857

Bridges (Structures)

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- Calculation of Thermal Stresses in Bridge Structures, H. Vaidyanathan, TN: ST4:Apr 77:907:12837
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- Displacements and Losses in Multistage Prestressed Members, Amin Ghali, Romy G. Sisodiya and Gamil S. Tadros, ST11:Nov 74:2307:10968
- Dynamic Response Method for Structural Evaluation, Otto C. Guedelhoefer, III, Jack R. Janney and John F. Wiss, Preprint No.3096, Oct 77, 18pp.
- Effective Composite Beam Width at Ultimate Load, Conrad P. Heins and Horn Ming Fan, ST11:Nov 76:2163:12538
- Exterior Girder Design in Highway Bridges, Henry L. Kinnier and Furman W. Barton, Preprint No.2972, Oct 77, 10pp.
- Fatigue and Fracture of Bridge Steels, Richard Roberts and George R. Irwin, ST2:Feb 76:337:11913
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- History of the Theory of Bridge Structures, Bogdan O. Kuzmanovic, ST5:May 77:1095:12935
- How to Evaluate Bridges for Overloads — ASAP, Kenneth R. White and John Minor, Preprint No.2827, Apr 77, 11pp.
- Inclined Cables Under Load — Design Expressions, Anthony J. Wilson and Robert J. Wheen, ST5:May 77:1061:12922
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- Preliminary Experiences with the ACD/MCD Bridge Inspection System, John R. Barton and Anthony Leone, Preprint No.2904, Apr 77, 36pp.

- Response of a Bridge-Like Structure in Turbulence, Robert H. Scanlan and W.-H. Lin, EM77:May 77:48
- Scheduling of Drawbridge Operations, Ira S. Kuperstein, TE6:Nov 77:729:13332
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Bridges (Suspension)

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- Binary Flutter of Suspension Bridge Deck Sections, Yasuharu Nakamura and Takeshi Yoshimura, EM4:Aug 76:685:12327
- Cable-Stayed Versus Classical Suspension Bridge, Walter Podolny, Jr., TE2:May 76:291:12130
- Disaster Response in Navigational Emergencies, Patrick H. Carigan, Preprint No.2993, Oct 77, 19pp.
- Effects of Turbulence on Bridge Model Torsional Stability, Timothy A. Reinhold, Henry W. Tieleman and Francis J. Maher, ST5:May 76:1003:12118
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- Masjid (Mosque) Planning, Altaf Hussain, UP1:Aug 76:171:12348

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- Application of Solar Energy to Schools and Residences, Albert Weinstein, Richard T. Duncan, Jr. and William C. Sherbin, Preprint No.2908, Apr 77, 10pp.
- Economic Analysis of Residential Land-Use Alternatives, David C. Curtis and Richard H. McCuen, UP2:Nov 75:109:11678
- Manpower Use in High-Rise Residential Construction, Ira H. Kleinfeld, CO2:June 76:379: 12178

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Behavior of Buried Concrete Pipe, Raymond J. Krizek and Paul McQuade, Preprint No.3077, Oct 77, 28pp.

Seismic Response of Buried Pipelines, Milos Novak and Aly Hindy, EM77:May 77:44

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Aspects of Air-Supported Structures, Charles Birnstiel, Preprint No.2864, Apr 77, 29pp.

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- Cable Equilibrium and Stability in a Steady Wind, John J. Russell, Joseph D. Morgan, III and William M. Henghold, Preprint No.3104, Oct 77, 22pp.
- Cable-Stayed Versus Classical Suspension Bridge, Walter Podolny, Jr., TE2:May 76:291:12130
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- Finite Element Analysis of Deep Sea Moors and Cable Systems, Ronald L. Webster, Preprint No.3033, Oct 77, 32pp.
- Free Vibrations of Cable in Three Dimensions, William M. Henghold, John J. Russell and Joseph D. Morgan, III, ST5:May 77:1127:12954
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- The Role of the Fabricator — Large Fabric Structures, Walter W. Bird, Preprint No.2887, Apr 77, 20pp.
- Seismic Supports for Electrical Cable Systems, Anil K. Kar and Sitansu S. Sinha, PO1:July 75:95:11464
- Static Behavior of Wire Rope, George A. Costello and Sunil K. Sinha, EM6:Dec 77:1011:13417
- Statics and Dynamics of Cable Tresses, H. Max Irvine, EM4:Aug 75:429:11506
- Statics of Suspended Cables, H. Max Irvine, EM3: June 75:187:11351
- Tentative Recommendations for Cable-Stayed Bridge Structures, Walter Podolny, Jr., Chmn., ST5:May 77:929:12933
- Torsional Stiffness of Twisted Wire Cables, George A. Costello and Sunil K. Sinha, TN: EM4:Aug 77: 766:13099
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Light Rail System Evaluation as an Alternative for the Detroit Region, Ramesh M. Khona and Robert J. Munchinski, Preprint No.3035, Oct 77, 29pp.
A Look at Future International Aviation Capital Requirements and Availability, R. R. Cope, AT77: Apr 77:13
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NORCAL Regional Port Planning Studies, Frank C. Boeger, Preprint No.2994, Oct 77, 32pp.

Cargo Transportation

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Ride Sharing: Implications for the Future, Kenneth J. Dueker, Brent O. Bair and Irwin P. Levin, Preprint No.2906, Apr 77, 16pp.
Ride Sharing: Psychological Factors, Kenneth J. Dueker, Brent O. Bair and Irwin P. Levin, TE6: Nov 77:685:13324
Shared Ride Auto Transit as a Tool to Improve Efficiency of Existing Transit System, George A. Sargent, UT-76:July 76:213
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Discounted Cash Flow Analysis to Select Equipment, Richard Briller, EE3:June 76:595:12190
Pre-Estimate Cash Flow Analysis, David B. Ashley and Paul M. Teicholz, CO3:Sept 77:369:13213

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Performance of a Cellular Wharf, Warren L. Schroeder, Dennis K. Marker and Thanasarn Khuayjarernpanishk, GT3:Mar 77:153:12790

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Conceptual Model for Activated Sludge Processes, Anthony F. Gaudy, Jr., Rengachary Srinivasaraghavan and Medhot Saleh, EE1:Feb 77: 71:12725

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Compaction Grouting — A Significant Case History, James Warner, Preprint No.2933, Oct 77, 13pp.
Structural Grouting for Oroville Dam Coreblock, John E. O'Rourke, GT5:May 77:367:12905

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Impact of Regulatory Measures — Safety, Security, Certification, George N. Kirk, AT77:Apr 77:119
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Status of States' Dam Safety Programs, Bruce A. Tschantz, EFEDS:Nov 76:20

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Giuseppe Venturoli, Pioneer in Channel Studies, Rene Chevray, HY10:Oct 76:1533:12488

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River Regulating Works — Middle Mississippi River, Claude N. Strauser and Gary W. Schwartz, Preprint No.2857, Apr 77, 25pp.

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Chemical Removal (Sewage Treatment)

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The Airport Operators Viewpoint — Airfield Pavement Load Evaluation, Donald M. Arntzen, Preprint No.3114, Oct 77, 16pp.

Analytical Study of Freeway Reliability, Abishai Polus and Joseph L. Shofer, TE4:Nov 76:857:12570

Chicago Type Basculer Balancing: A New Technique, Henry Ecale, Graham Brown and Peter Kocsis, TN: ST11:Nov 77:2269:13314

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 Unsteady Stratified Circulation in a Cavity, Der-Liang Young, James A. Liggett and Richard H. Gallagher, EM6:Dec 76:1009:12643

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Effects of Drainage in Repeated Loading of Clays,
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Engineering Properties of Expansive Clays, Wesley
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Braced Walls in Clay, G. Wayne Clough, Abdulaziz
I. Mana and Philippe H. Mayu, Preprint No.2923,
Oct 77, 32pp.

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and Thawed Silt and Clay Subgrade Materials,
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Richart, Jr., GTAW:77:541

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Hardcastle and James K. Mitchell, IR2:June 76:
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Foundation Design Parameters for the Fort Union
Group Soils, Van A. Silver and Samuel P.
Clemence, Preprint No.2984, Oct 77, 24pp.

Clay Soils

Foundation Performance of Tower of Pisa, James K.
Mitchell, Vitoon Vivatrat and T. William Lambe,
GT3:Mar 77:227:12814

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Roy and Parth Sarathi, GT4:Apr 76:347:12024

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- Ocean Wave Statistics from FNWC Spectral Analysis, Warren C. Thompson and F. Michael Reynolds, CE15:July 76:238
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- Device for Evaluating Coalescence of Oil Emulsion, John-Nan Chieu, Earnest F. Gloyna and Robert S. Schechter, EE2:Apr 77:163:12852

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- Cleaning Up the Coal Industry, Bruce Hamilton, CE: July 77:54
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- Large Direct Shear Tests for Coal Refuse, Ralph E. Brown and Paul G. Swanson, GT77:June 77:87

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Stress-Path Independent Behavior of Cohesionless Soil, Poul V. Lade and James M. Duncan, GT1:Jan 76:51:11841

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- Denver Regional EIS for Wastewater Facilities, Phillip J. Morris and Bahman Sheikh-Ol-Eslami, Preprint No.3084, Oct 77, 15pp.
- Disaster Response to a Flash Flood, Robert L. Berling, Preprint No.2987, Oct 77, 20pp.
- Four-State Comparison of Models Used for Irrigation Management, R. J. Hanks, J. Ian Stewart and J. Paul Riley, IR77:July 77:1-283
- Highway in Harmony with Its Environment, Cade L. Benson, CE:Sept 76:56
- I-70 Glenwood Canyon — Design Concept, Joseph H. Looper, TE2:May 76:201:12138
- Nevada's Public Water Supplies: A System Analysis, James D. Goff, Preprint No.2822, Apr 77, 24pp.
- Response of South Platte to Effluent Limitations, David W. Hendricks and Mark H. Bluestein, EE4: Aug 76:745:12294
- 1976 Big Thompson Flood and Flood Recovery Planning, Larry A. Muller and Patrick F. Mulhern, Preprint No.3105, Oct 77, 27pp.

Colorado River

- Allocation of Arizona's Remaining Entitlement in the Colorado River, Wesley E. Steiner, Jr., IR77:July 77:II-68
- Effect of Weather Modification on Runoff in Upper Colorado River Basin, Hubert J. Morel-Seytoux, IR77:July 77:II-51
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- Water Available for Energy—Upper Colorado River Basin, Dee C. Hansen, WR2:Nov 76:341:12573

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- Biaxial Interaction Exponent for Concrete Columns, Nanjappa Shanmugasundaram, ST12:Dec 77:2295: 13408
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- Concrete Filled Structural Plastic Columns, Carl E. Kurt, Preprint No.2889, Apr 77, 19pp.
- Design of I-Shaped Columns with Diaphragm Bracing, Samuel J. Errera and Tamirisa V.S.R. Apparao, ST9:Sept 76:1685:12397
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- State-of-the-Art Report on Composite or Mixed Steel-Concrete Construction for Buildings, Hal Iyengar, SCCB:77, 154pp.
- A Statistical Approach to the Problem of Stability Related to Structural Out-of-Plumb, Denis Beaulieu and Peter F. Adams, STC:May 77:114
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- Strengthening and Repair of Existing Structures, Stephenson B. Barnes, Preprint No.2936, Oct 77, 28pp.
- Strength of Slab-Column Connections with Shear and Unbalanced Flexure, Robert Park and Shafiqul Islam, ST9:Sept 76:1879:12419
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- Computer Impact on Environmental Runoff and Wastewater Studies, Wayne C. Huber, James P. Heaney and Harry C. Torno, Preprint No.3106, Oct 77, 30pp.
- Equalization of Flow Variations in Combined Sewers, Lars-Eric Janson, Stein Bendixen and Anders Harlaut, EE6:Dec 76:1139:12596
- The Impact of Urban Water Pollution Control on Receiving Water Quality, Miguel A. Medina, Jr., Wayne C. Huber and James P. Heaney, Preprint No.2859, Apr 77, 29pp.
- Optimal Storage Control in a Combined Sewage System, Bruce H. Bradford, WRI1:May 77:1:12903
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- Stormwater Studies and Alternatives in Atlanta, Robert F. Holbrook, Armando I. Perez, Billy G. Turner and Herbert I. Miller, EE6:Dec 76:1263:12614

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- The Marketing and Adoption of Ideas in Public Works Planning, Gene E. Willeke, Preprint No.3026, Oct 77, 10pp.

The Message of Structure, Mario G. Salvadori, Preprint No.2823, Apr 77, 8pp.

News Media and the Civil Engineer, James Strong, PROD:Aug 76:II-13

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Sanitary Landfill Treatment, Interstate Highway 84, Philip Keene, GT77:June 77:632

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Condensation of Structural Freedoms by Component Mode-Substructure Technique, J. W. Harvey, W. C. Clark, R. G. Alderson and D. J. Tree, Preprint No.3018, Oct 77, 12pp.

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- Thermal Stress as a Narrow-Band Random Load, Robert A. Heller, EM5:Oct 76:787:12450

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Use of Numerical Models for Computation of Coastal Water Levels, J. J. Wanstath, H. Lee Butler, C. Linwood Vincent, Donald T. Resio and Robert W. Whalin, Preprint No.3070, Oct 77, 30pp.

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Applications of Mathematical Programming in Water Resources, Daniel O. Hogenauer and Chia Shun Shih, Preprint No.2895, Apr 77, 27pp.

The Behavior During Construction of the Dupont Circle Subway Station Lining, Gary S. Brierley and Edward J. Cording, EFGS:Oct 76:675

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- Buckling Formulas for Corrugated Metal Shear Diaphragms, John T. Easley, ST7:July 75:1403:11429
- Calculation of Steel Diaphragm Behavior, J. Michael Davies, ST7:July 76:1411:12254
- Design Considerations for Diaphragms, Dick W. Ebeling, Preprint No.3002, Oct 77, 14pp.
- Design of Diaphragm-Braced I-Beams, David A. Nethercot and Nicholas S. Trahair, ST10:Oct 75:2045:11615
- Design of I-Shaped Columns with Diaphragm Bracing, Samuel J. Errera and Tamirisa V.S.R. Apparao, ST9:Sept 76:1685:12397
- Plywood Diaphragms, John R. Tissell, Preprint No.3076, Oct 77, 23pp.
- Simplified Diaphragm Analysis, J. Michael Davies, ST11:Nov 77:2093:13329
- Strength and Stiffness of Corrugated Metal Shear Diaphragms, John T. Easley, ST1:Jan 77:169:12675
- Vibration Analysis of Plate-Grid Decks, Debasish K. Roy and Donald L. Dean, EM77:May 77:185

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- On Diffusive Property of a Particle Tracer With the Reference to an Effect of a Jetty, Shigehisa Nakamura, CS77:Nov 77:417

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- Forces due to Nonlinear Waves on Vertical Cylinders, Harihara Raman and Paruchuri Venkatanarasaiah, WW3:Aug 76:301:12326
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- Shallow Wave Diffraction around Large Cylinder, Michael de St. Q. Isaacson, WW1:Feb 77:69:12756
- Wave Diffraction by a Crack: Finite Element Simulations, Wilton W. King and John F. Malluck, EM4:Aug 77:601:13155

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Buoyant Forced-Plumes in Cross Flow, Vincent H. Chu and Michael B. Goldberg, HY9:Sept 74:1203:10805

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Incinerated Material Used for Construction, Alfred H. Brand, GT77:June 77:348

Integrated Solutions to Tailings Disposal, Michael J. Taylor and E. D'Appolonia, GT77:June 77:301

Managing Resources at Lakes in Southeastern States, Robert L. Solheim, Preprint No.2947, Oct 77, 20pp.

Man-Induced Changes of Middle Mississippi River, Michael A. Stevens, Daryl B. Simons and Stanley A. Schumm, WW2:May 75:119:1281

Observational Approach to Tailings Dam Enlargement, Edwin S. Smith, Don R. Poindexter and Roy H. Bleikamp, GT77:June 77:461

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River Regulating Works — Middle Mississippi River, Claude N. Strauser and Gary W. Schwartz, Preprint No.2857, Apr 77, 25pp.

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 Disaster Response in Navigational Emergencies, Patrick H. Carigan, Preprint No.2993, Oct 77, 19pp.

Discharge (Water)

- Aeration of Hydro Releases at Ft. Patrick Henry Dam, Richard J. Ruane, Svein Vigander and William R. Nicholas, HY10:Oct 77:1335:13291
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- Bibliography on Discharge Measurement Techniques, Leslie J. Hooper, Chmn., HY8:Aug 77:889:13141
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 Micro and Macro Stability Analysis of Lattice Structures, R. Richard Avent, Preprint No.3052, Oct 77, 18pp.

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- Engineering and Reverse Discrimination, Ariel E. Morelli, TN: CO3:Sept 77:539:13171

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Some Remarks on Computer Modeling of Coastal Flows, Hugo B. Fischer, WW4:Nov 76:395:12520

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Current and Proposed Construction Research Studies, John D. Borcharding and Brennon P. Hatley, CO3: Sept 76:547:12423

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Bureau of Reclamation Research in Lake Destratification, Perry L. Johnson and Danny L. King, Preprint No.2966, Oct 77, 26pp.

Computer Impact on Environmental Runoff and Wastewater Studies, Wayne C. Huber, James P. Heaney and Harry C. Torno, Preprint No.3106, Oct 77, 30pp.

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Preimpoundment Eutrophication Study Approaches, Kent W. Thornton, Dennis E. Ford, Donald L. Robey, Rex L. Eley and Allan S. Lessem, Preprint No.3025, Oct 77, 32pp.

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Aspects of Air-Supported Structures, Charles Birnstiel, Preprint No.2864, Apr 77, 29pp.

- Design of Geodesic Dome — South Pole, Don L. Richter, Preprint No.3060, Oct 77, 15pp.
- The Kingdome, John V. Christiansen, Preprint No.2946, Oct 77, 26pp.
- Stability of Lattice Structures Under Combined Loading, Siegfried M. Holzer, Arnold E. Somers, Jr. and Willis S. White, III, Preprint No.2975, Oct 77, 20pp.
- Three-Dimensional Stability of Prestressed Arches, Amde M. Wolde-Tinsae and John V. Huddleston, EM5:Oct 77:855:13281
- Wind Effects on Air-Supported Structures, Nicholas F. Morris, Preprint No.2860, Apr 77, 20pp.
- 502-ft Diameter Laminated-Timber Dome Provides Fast, Low-Cost Cover for Arizona Stadium, Marshall R. Turner, CE:Aug 77:69
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- Factors Affecting Nitrification, Melvin R. Hockenbury, Glen T. Daigger and C. P. Leslie Grady, Jr., EE1:Feb 77:9:12713
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- Tornadoes: State of Knowledge, Edwin Kessler, Preprint No.2877, Apr 77, 9pp.
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- Shotcrete: Wet or Dry Process, H. R. Egger, EFSGS: Oct 76:241
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- Managing Storm Runoff in the Chicagoland Area, Bart T. Lynam, Forrest C. Neil and Frank E. Dalton, Preprint No.3091, Oct 77, 34pp.
- Operation and Maintenance of Irrigation and Drainage Systems: Section IV — Maintenance, Richard A. Smith, Chmn., IR1:Mar 76:1:11963
- Quality Aspects of Agricultural Runoff and Drainage, Sheldon Kelman, Chmn., IR4:Dec 77:475:13439
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- Stormwater Quality — What Is The Problem?, Ben Urbanos and Lawrence Scott Tucker, Preprint No.3091, Oct 77, 30pp.
- Subsidence of Cultivated Organic Soil in Ontario, Ross W. Irwin, IR2:June 77:197:12979
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- A Geomorphic Study of the Lower Mississippi River, Brien R. Winkley, reprint No.2990, Oct 77, 31pp.
- Geotechnical Practices for Disposal of Solid Waste Materials, Donald I. Gray, Chmn., 885 pp.
- Highlights of San Diego Convention, CE:June 76:67
- Inlet Interaction and Stability Theory Verification, Martin T. Czerniak, CS77:Nov 77:754
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Dynamic Properties of an Arch Dam, Kalman L. Benuska, J. Brent Hoerner and Roy C. Van Orden, EM77:May 77:306

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Parameter Effects on Dynamic Properties of Frozen Soils, Ted S. Vinson, Preprint No.3011, Oct 77, 29pp.

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- Computer Graphics in Engineering Education — Aid to Better Teaching, Charles H. Schilling and John L. Palmer, Preprint No.3038, Oct 77, 9pp.
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- A Probability-Based Fatigue Design Algorithm for Offshore Structures, Paul H. Wirsching, Bernhard Stahl and Kenneth G. Nolte, Preprint No.2834, Apr 77, 21pp.
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Feces

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Practical Experience with New Directions in Project Formulation, R. M. Thompson, IR77:July 77:II-156
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A Program to Identify and Control Pollution from Agricultural Drainage, R. E. Merrill, Ronald M. Van De Pol and W. E. Ryley, Preprint No.3069, Oct 77, 19pp.

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Response of South Platte to Effluent Limitations, David W. Hendricks and Mark H. Bluestein, EE4: Aug 76:745:12294

Salinity Control and Federal Water Quality Act, Michael B. Bessler and John T. Maletic, HY5:May 75:581:11321

Some Thoughts on Zero Discharge, Paul Fleming, EI2:Apr 76:179:12082

State of Minority Contractor Participation, Shu-Tien Li, TN: CO2:June 77:289:12963

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 Metrication for Surveying and Mapping, Charles A. Whitten, Preprint No.2944, Oct 77, 10pp.
 New Adjustment of North American Datum and Surveyor, John D. Bossler, William E. Stephens, James R. Plasker, Wesley V. Hull and Douglas R. Lee, SU1:Oct 75:115:11657
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- A Geomorphic Study of the Lower Mississippi River, Brian R. Winkley, Preprint No.2990, Oct 77, 31pp.
 Geomorphology of the Southern Coast of Alaska, Miles O. Hayes, Christopher H. Ruby, Michael F. Stephen and Stephen J. Wilson, CE15:July 76:1992
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Energy Management in Commercial Buildings, Tom L. Peyton, Jr., EI1:Jan 77:31:12679

Heat Loss

Urban Energy Surveys Using Thermal Imagery, J. E. Colcord, Preprint No.2955, Oct 77, 24pp.

Heat Sinks

Transient Heat Releases from Offshore Nuclear Plants, Gerhard Jirka, Duncan W. Wood and Donald R.F. Harleman, HY2:Feb 77:151:12743

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Application of Solar Energy to Schools and Residences, Albert Weinstein, Richard T. Duncan, Jr. and William C. Sherbin, Preprint No.2908, Apr 77, 10pp.
Potential Use of Heat Storage Wells for Energy Conservation, Raphael G. Kazmann, Preprint No.2824, Apr 77, 16pp.

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States Intensifying Efforts to Reduce Highway Landslides, Ronald G. Chassie and Roger D. Goughnor, CE:Apr 76:65

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Interrelationship between Planning and Funding, Mark G. Goode, Jr., TE6:Nov 77:703:13354

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ARS Research on Sediment Transport, Yield and Properties, August R. Robinson and Kenneth G. Renard, Preprint No.2879, Apr 77, 22pp.

Bayesian Approach to Tile Drain Design, Andre Musy and Lucien Duckstein, IR3:Sept 76:317:12390

Development of Alternatives for Dewatering Dredged Materials, T. Allan Haiiburton, GT77:June 77:615

Efficient Water Use — A Part of Areawide Environmental Management, Jerome B. Gilbert, Donald L. Feuerstein and John A. Davis, Preprint No.3049, Oct 77, 18pp.

Geotechnical Practices for Disposal of Solid Waste Materials, Donald H. Gray, Chmn., , 885 pp.

The Hackensack Meadowlands Project, CE:May 77:52

Let's Consider Land Treatment, Not Land Disposal, Ants Uiga, Alfred T. Wallace and David H. Howells, CE:Mar 76:60

Management Model for Wastewater Disposal on Land, Albert Koenig and Daniel P. Loucks, EE2:Apr 77:181:12870

Planning for Phosphate Land Reclamation, Thomas P. Oxford and Leslie G. Bromwell, GT77:June 77:715

Waste Clay Dewatering and Disposal, Leslie G. Bromwell and Thomas P. Oxford, GT77:June 77:541

Wyoming Grassland May Become World Coal Mining Capital, CE:Sept 77:50

Landscaping

Highway in Harmony with Its Environment, Cade L. Benson, CE:Sept 75:56

Recreational Uses of Flood Control and Water Conservation Facilities, John L. Wallace, Preprint No.3075, Oct 77, 24pp.

Seattle Freeway Park: A Scene of Blissful Contrasts, Donald L. Rigoni, CE:May 77:47

Landslides

Consultants Reviewing Plans of Other Consultants in Fairfax County, Va.; Landslides Greatly Reduced, Eugene E. Dallaire and C. S. Coleman, CE:Sept 76:77

Dynamic Analysis of the Slide in the Lower San Fernando Dam during the Earthquake of February 9, 1971, H. Bolton Seed, Izzat M. Idriss, Kenneth L. Lee and Faiz I. Makdisi, GT9:Sept 75:889:11541

Finite Element Approach to Waves Due to Landslides, Christopher G. Koutitas, HY9:Sept 77:1021:13218

Fracture Mechanics Model for Slip Surface Propagation in Soil and Rock Masses, James R. Rice, EM77:May 77:373

Landslide Generated Water Wave Model, Donald C. Raney and H. Lee Butler, HY9:Sept 76:1269:12425

Liquefaction during 1906 San Francisco Earthquake, T. Leslie Youd and Seena N. Hoose, GT5:May 76:425:12143

The Slides in the San Fernando Dams During the Earthquake of February 9, 1971, H. Bolton Seed, Kenneth L. Lee, Izzat M. Idriss and Faiz I. Makdisi, GT7:July 75:651:11449

States Intensifying Efforts to Reduce Highway Landslides, Ronald G. Chassie and Roger D. Goughnor, CE:Apr 76:65

Land Subsidence

The Fight to Keep Houston From Sinking, Glenn W. Spencer, CE:Sept 77:69

Land Surveys

Horizontal Control in Kansas City by State Plane Coordinates, Don D. Hurlbert and J. Douglas McDonald, SU1:Dec 76:9:12598

Land Data Management System for Resource Planning, Stuart G. Walesh, Lois A. Kawatski and Paul J. Clavette, WR2:Nov 77:177:13323

Metrication for Surveying and Mapping, Charles A. Whitten, Preprint No.2944, Oct 77, 10pp.

Through the Years: History of Texas Land, Raymond Wisdom, Preprint No.2883, Apr 77, 18pp.

Land Titles

Insuring Wetlands, James R. Dorsey, Preprint No.2952, Oct 77, 23pp.

Land Usage

Airport Noise Reduction — What Next?, A. L. McPike, AT77:Apr 77:347

ASMUG - Simulation Model of Urban Growth, R. Paul Mason, UPI:July 77:13:13038

Best Practicable Waste Treatment Screening Model, Douglas A. Haith and David C. Chapman, EE3:June 77:397:12980

- Developing Alternative Futures, John M. Courtney, UPI:Aug 76:49:12337
- Disposal of Sludges by Land Spreading, Charles Ganz and Joe P. Teller, Preprint No.2895, Apr 77, 6pp.
- Effect of Energy Shortage and Land Use on Auto Occupancy, Jahanbakhsh Behnam and Robert E. Beglinger, TE2:May 76:255:12142
- Engineering Properties of FGD Sludges, D. Joseph Hagerty, C. Robert Ullrich and Barry K. Thacker, GT77:June 77:23
- Evaluating Economic and Energy Consequences of Land-Use Decisions, Robert S. DeVoy, UPI:Aug 76:105:12331
- Irrigation Re-Use of Wastewater, Michael J. Mickelson, IR77:July 77:11:91
- Land Application of High Nitrogen Industrial Wastewater, George E. Brown, Preprint No.2878, Apr 77, 14pp.
- Let's Consider Land Treatment, Not Land Disposal, Ants Uiga, Alfred T. Wallace and David H. Howells, CE:Mar 76:60
- Water—An Element of Land-Use and Urban Growth Policies, William R. Walker and William E. Cox, UPI:Aug 76:81:12339
- Land Usage Planning**
- Sand and Gravel — Don't Take Them for Granted, CE:Mar 77:55
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- Land Use**
- Airport Noise Reduction — What Next?, A. L. McPike, AT77:Apr 77:347
- Air Quality Management through Land-Use Measures, Ronald A. Venezia, UPI:Aug 76:95:12350
- ASMUG - Simulation Model of Urban Growth, R. Paul Mason, UPI:July 77:13:13038
- Busway Versus Rail Transit — A Land-Use Perspective, Eric L. Bers and Peter Hotine, TE5:Sept 77:605:13228
- Changes in Socioeconomic Considerations, Walter E. Lewis, UPI:Aug 76:29:12355
- The Changing Scene, Harold E. Nelson, UPI:Aug 76:3:12307
- Chicago Urban Transportation Planning, Harold E. Nelson and William L. Barnes, UPI:July 77:53:13075
- Developing Alternative Futures, John M. Courtney, UPI:Aug 76:49:12337
- Downtown Residential-Transportation Development, Francis P.D. Navin, UPI:July 77:91:13085
- Dredged Material as a Natural Resource, Michael R. Walsh, WW3:Aug 77:309:13148
- Economic Analysis of Residential Land-Use Alternatives, David C. Curtis and Richard H. McCuen, UP2:May 75:109:11678
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- Environment — 25 Years Ahead, Ira L. Whitman, CE:Jan 76:52
- Estimation of Washload Produced on Certain Small Watersheds, Oswald Rendon-Herrero, HY77:July 74: 835:10638
- Evaluating Economic and Energy Consequences of Land-Use Decisions, Robert S. DeVoy, UPI:Aug 76:105:12331
- Flood Damage Reduction Potential of River Forecast, Harold John Day and Kwang K. Lee, WR1:Apr 76:77:12059
- Freedom and Environmental Quality, P. Walton Purdom, EI3:July 77:211:13057
- Guide for Collection, Analysis and Use of Urban Stormwater Data, EFCAUD:Nov 76
- Identifying Urban Flash Flooding Problems, William P. Darby and Mitchell J. Small, WR2:Nov 76:349: 12571
- Integrated Evaluation Programs, Irving Hand, UPI: Aug 76:117:12334
- Integrated Evaluation Programs for Fairfax County, Va., Jim Reid, UPI:Aug 76:137:12332
- Intergovernmental Guidance of Land Use and Growth, Bruce D. McDowell, UPI:Aug 76:15: 12319
- Irrigation Re-Use of Wastewater, Michael J. Mickelson, IR77:July 77:11:91
- An Issue-Based Land-Use Planning Process, Stephen C. Lockwood, UPI:Aug 76:41:12341
- Land Application of High Nitrogen Industrial Wastewater, George E. Brown, Preprint No.2878, Apr 77, 14pp.
- Land Data Management System for Resource Planning, Stuart G. Walesh, Lois A. Kawatski and Paul J. Clavette, WR2:Nov 77:177:13323
- Land-Use and Growth Management—A Comment for Professionals, Randall Scott, UPI:Aug 76:73: 12359
- Land Use and Water Quality in New York Rivers, Douglas A. Haith, EE1:Feb 76:1:11902
- Land-Use Model for Service Area Projection, Peter M. Meier, EE1:Feb 76:71:11932
- Maintaining Water Quality in Voyageurs National Park, William H. Anderl, UPI:July 77:117:13078
- Managing Resources at Lakes in Southeastern States, Robert L. Solheim, Preprint No.2947, Oct 77, 20pp.
- Measuring Watershed Land-Use Changes with Airphotos, Donald B. Stafford, James T. Ligon and M. Eugene Nettles, TE1:Feb 76:117:11925
- National Land-Use Policy: Is it Needed?, Daniel A. Dreyfus, UPI:Aug 76:9:12324
- Nonassisted Private Suburban Development, Daniel B. Stauffer, UPI:July 77:1:13047
- Nonpoint Sources of Pollution: A Federal Perspective, Mark A. Pisano, EE3:June 76:555: 12211
- Optimizing Selection of Marine Retaining Walls, Robert C. Johnston, Max Bernheimer and Dominic A. Zarrella, GT12:Dec 76:1209:12624
- Pedestrian Volume Estimation by Land-Use Variables, Jahanbakhsh Behnam and Bharat G. Patel, TE4:July 77:507:13062
- Planning and Implementation under Section 208, William C. Lienesch and Gerald A. Emison, WR2: Nov 76:283:12556
- Productive Land Use of Dredged Material Containment Areas, Bradford S. Hubbard and John B. Herbich, HY77:Aug 77:320
- "Promised Lands: Subdivisions in Florida's Wetlands," by Leslie Allan, Beryl Kuder and Sarah L. Oakes (Book Review), Philip M. Botch, CE:Aug 77:42
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- The Resurgence of Light Rail Transit, Martin Lenow, TE2:May 76:229:12131
- Site Use Evaluation for Dredged Material Landfills, James S. deBettencourt, Raymond J. Krizek and George L. Peterson, UPI:July 77:39:13049
- Social Evaluation of Land-Use Controls, Morton Lustig, UPI:Aug 76:111:12356
- Stormwater Studies and Alternatives in Atlanta, Robert F. Holbrook, Armando I. Perez, Billy G. Turner and Herbert I. Miller, EE6:Dec 76:1263: 12614
- Summary of Land-Use Policy Papers, Charles B. Notess, UPI:Aug 76:147:12350
- System Considerations in Freeway Planning, Design, and Construction, Joe G. Mothral, Richard R. Deussen and Timothy J. Gately, EI2:Apr 77:123: 12843
- Toward the Development of Multipurpose Cadastral Systems, John D. McLaughlin and James L. Clapp, SU1:Sept 77:53:13237
- Traffic Generation from Land Development Proposals, Satish C. Sharma and Afifi H. Soliman, TE2:May 76:243:12153
- Transportation, Land Use, and Air Quality Programs, Charles E. Dare, TE2:May 76:411:12124
- Urban Runoff Control Master Planning, Murray B. McPherson, Preprint No.2825, Apr 77, 19pp.
- Urban Runoff Pollution and Water Quality Planning, William Whipple, Jr., Preprint No.3091, Oct 77, 25pp.

Urban Sediment Problems: A Statement on Scope, Research, Legislation and Education, Harold P. Guy, Chmn., HY4:Apr 75:329:11256

Use of an EIR Process in Controlling Urban Sprawl, Randolph M. Brodersen and Leonard Ortolano, UPI:Aug 76:199:12358

Use of Space in Highway Impact Zone, Floyd I. Thiel, Roger D. Mingo and Jo Ann Fields, TE4:Nov 76:727:12539

Water—An Element of Land-Use and Urban Growth Policies, William R. Walker and William E. Cox, UPI:Aug 76:81:12339

Water Conflicts in Western Coal Development, Theodore T. Williams, WR2:Nov 76:327:12562

Watershed Resources Management Plan, Takashi T. Kamine, Preprint No.2958, Oct 77, 30pp.

Water Supply, Land Use, and Urban Growths, Jerri Kay Romm, WR2:Nov 77:271:13338

1976 Big Thompson Flood and Flood Recovery Planning, Larry A. Muller and Patrick F. Mulhern, Preprint No.3105, Oct 77, 27pp.

Land Use Zoning

Environmental Model of Kismimmee River Basin, Philip B. Bedient, Wayne C. Huber and James P. Heaney, WR2:Nov 77:241:13326

Land Values

Research and Control of Obnoxious Aquatic Plants, Julian J. Raynes and Edward O. Gangstad, WW3:Aug 77:301:13124

Lap Joints

The Role of the Adhesive Layer in a Lap Joint Under Tension-Shear, Bijan Farhad and Rokuro Muki, Preprint No.3073, Oct 77, 29pp.

Laplace Equation

Laplacian-Isoparametric Grid Generation Scheme, Leonard R. Herrmann, EM5:Oct 76:749:12456

Laplace Transformation

Transient Finite Element Shallow Lake Circulation, Frank D.L. Young and James A. Liggett, HY2:Feb 77:109:12741

Lasers

On-Farm Drainage Design Procedures Used by ADS, Inc., George M. True, IR77:July 77:1-14

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Experimental Evaluation of Lateral Buckling Loads, Harold R. Meck, EM2:Apr 77:331:12887

Fluid Forces on Oscillating Cylinders, Turgut Sarpkaya, Preprint No.2921, Oct 77, 29pp.

Soil Modulus for Laterally Loaded Piles, Bramlette McClelland and John A. Focht, Jr., GTAW:77:469

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Behavior of Underground Box Conduit in the San Fernando Earthquake, Peter J. Hradiek, LE77:Aug 77:308

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Construction Methods in Tunneling under a Railroad, Marcello H. Soto, CO3:Sept 77:317:13180

Developments on Lateral Torsional Buckling, Joachim Lindner, STC:May 77:532

Equivalent Frame Analysis for Gravity and Lateral Loads, M. Daniel Vanderbilt, Preprint No.3093, Oct 77, 30pp.

An Experimental Review of Lateral Buckling of Beams and Girders, Yuhshi Fukumoto and Masahiro Kubo, STC:May 77:541

Fatigue Provisions of AASHTO Specifications, Kadir M. Kusmez and Chi C. Tung, ST9:Sept 76:1725:12385

Lateral and Local Buckling of Beams and Frames, Hasan U. Akay, C. Philip Johnson and Kenneth M. Will, ST9:Sept 77:1821:13226

Laterally Loaded Piles: Program Documentation, Lymon C. Reese, GT4:Apr 77:287:12862

Lateral-Torsional Buckling of End-Notched Steel Beams, Dirk P. du Plessis, STC:May 77:563

A Practical Method of Second Order Analysis. Part 2—Rigid Frames, William J. LeMessurier, STC:May 77:95

Lateral Pressure

At-Rest Lateral Earth Pressure of Consolidating Clay, M. Salah Abdelhamid and Raymond J. Krizek, GT7:July 76:721:12240

Effect of Light-Gage Partitions on Multistory Buildings, Wagih M. El-Dakhkhni, ST1:Jan 77:119:12672

Lateral Earth Pressure at Rest in Soft Clay, K. Rainer Massarsch and Bengt B. Broms, GT10:Oct 76:1041:12476

Rheological Model of Laterally Stressed Frozen Soil, Khandker A. Aziz and Jan T. Labs, GT8:Aug 76:825:12316

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Design of Irrigation Pipe Laterals with Multiple Outlets, Roland P. Perold, IR2:June 77:179:12978

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Dynamic Buckling — Experiment Versus Analysis, Carlton Jeffcoat and John Dickerson, EM77:May 77:521

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Optimization of Lattices Using Nonlinear Programming, C. Dale Buckner and John F. Ely, EM77:May 77:448

Stability of Lattice Structures Under Combined Loading, Siegfried M. Holzer, Arnold E. Somers, Jr. and Willis S. White, III, Preprint No.2975, Oct 77, 20pp.

Lattices (Mathematics)

Optimization of Lattices Using Nonlinear Programming, C. Dale Buckner and John F. Ely, EM77:May 77:448

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Lateral Stability of Plane Open-Web Structures, P. C. Varghese, ST11:Nov 74:2223:10924

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What Happened at Dallas?, CE:July 77:66

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Teaching Ethics — We Can Learn from the Lawyers, Robert J. Smith, PAC77:Mar 77:103

Layers

Finite Element Analysis of Layered Wood Systems, Erik G. Thompson, James R. Goodman and M. Daniel Vanderbilt, ST12:Dec 75:2659:11802

Nonlinear Adsorption in Layered Porous Media Flow, Sheng Hsiung Lin, HY9:Sept 77:951:13192

Layout

Bibliography and Data on Cable-Stayed Bridges, Chris S.C. Yiu, Chmn., ST10:Oct 77:1971:13286

Free-Form Arch Dam Design System, Walter Stensch and G. Gerry, ST4:Apr 75:795:11222

Model for Layout and Design of Sewer Systems, Larry W. Mays, Harry G. Wenzel, Jr. and Jon C. Liebman, WR2:Nov 76:385:12580

Leaching

- Aerobic Bio-Treatment of a High-Strength Leachate, Victor C. Uloth and Donald S. Mavinic, EE4:Aug 77:647:13130
- Biological Treatment Kinetics of Landfill Leachate, Tarapada Palit and Syed R. Qasim, EE2:Apr 77:353:12892
- Chemical Stabilization of Dredged Materials, Raymond J. Krizek, Gilbert L. Roderick and Jau S. Jin, GT77:June 77:517
- Coal Pile Leachate—Quantity and Quality Characteristics, William C. Anderson and Mark P. Youngstrom, EE6:Dec 76:1239:12626
- County Treats Shredfill Leachate, Otto Vydra and Alfred Grimm, CE:Dec 76:55
- Cyanide Waste Disposal Site Neutralization, Kenneth H. Kastman and R. Eric Zimmerman, GT77:June 77:831
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- Flexible Liners in Landfills, William Slifer, EFLA:Sept 76:169
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- Geotechnical Aspects of Papermill Sludge Disposal, Richard E. Wardwell, Stanley E. Walker and James S. Atwell, GT77:June 77:756
- Hydrogeologic Factors in Landfill Management, A. Alexander Fungaroli, EFLA:Sept 76:47
- Incinerator Residue Disposal in Chicago, Theodore R. Maynard, GT77:June 77:773
- Integrated Solutions to Tailings Disposal, Michael J. Taylor and E. D'Appolonia, GT77:June 77:301
- Inverted Filter Stabilizes Soil, Stops Erosion, Chesley J. Posey, CE:Apr 76:78
- Leachate Production at Sanitary Landfill Sites, Purushottam Dass, Glen R. Tamke and Clarence M. Stoffel, EE6:Dec 77:981:13406
- Leaching Characteristics of Polluted Dredgings, Jau S. Jin, Raymond J. Krizek and Gilbert L. Roderick, EE2:Apr 77:197:12848
- Pulp and Papermill Solid Waste Disposal — A Review, Wayne A. Charlie, GT77:June 77:71
- Quality Considerations for Water Supply Evaluations, David V. MacDonald, Kline P. Barney, Jr. and Richard A. Smith, Preprint No.2855, Apr 77, 19pp.
- Sanitary Landfill Leachates and Their Leachate Treatment, Edward S.K. Chian and Poppe B. DeWalle, EE2:Apr 76:411:12033
- Utilization of a Mixing Zone for Leachate Management, Ronald A. Landon, EFLA:Sept 76:90

Leadership

- Developing Leaders from Engineers, Donald G. Larkin, EI3:July 77:245:13074

Lead Ore Deposits

- Burden and Spacing Relationships in the Design of Blasting Patterns, S. Bhandari, RM16:Sept 75:333

Lead Time

- Design Lead Time Predictions, Earl Rogers, TE4:Nov 76:737:12569

Leakage

- Dams on Rock Foundations, Lloyd B. Underwood and Norman A. Dixon, GT76:Aug 76:II-125
- Foundation Investigation and Treatment for TVA Dams, Earl L. Spearman, GT76:Aug 76:II-101

Least Squares Method

- Linearized Collinearity Equations for Scanned Data, James R. Baker, SU1:Sept 77:25:13225
- Structural System Parameter Estimation by Two-Stage Least Squares Method, Will Gersch, George T. Taoka and Robert Liu, EM5:Oct 76:883:12464

Legal Aspects

- Administering Interrelated Surface and Ground Water Resources in Nevada, Jack Cardinali, IR77:July 77:II-64

- "Judgment Reserved: A Landmark Environmental Case," by Frank D. Schamburg (Book Review), Ralph Stone, CE:Mar 77:40
- What To Do When the Suit is Served, Eugene B. Waggoner and John P. Bachner, CE:Apr 76:63

Legal Factors

- Administering Interrelated Surface and Ground Water Resources in Nevada, Jack Cardinali, IR77:July 77:II-64
- Allocation of Arizona's Remaining Entitlement in the Colorado River, Wesley E. Steiner, Jr., IR77:July 77:II-68

Legal Responsibility

- Analysis of Present Conditions from a Legal Viewpoint, A. L. Singer, ETH75:May 75:37
- The Field Engineer: Political and Legal Scapagoat?, Frederick S. Richards and Virginia Fairweather, CE:July 77:77

Legislation

- Administering Interrelated Surface and Ground Water Resources in Nevada, Jack Cardinali, IR77:July 77:II-64
- Analysis of Present Conditions from a Legal Viewpoint, A. L. Singer, ETH75:May 75:37
- British Reservoir Legislation and the Reservoirs Act, 1975, Alexander I.B. Moffat, EFEDS:Nov 76:39
- California Coastal Law Regulating San Pedro Bay, Bob N. Hoffmaster, WW77:Mar 77:II-38
- Computer-Aided Environmental Impact Analysis Systems, Ravinder K. Jain and Ronald D. Webster, Preprint No.2842, Apr 77, 28pp.
- Computer-Aided Environmental Impact Analysis, Ravinder K. Jain and Ronald D. Webster, WR2:Nov 77:257:13346
- Criminal Liability of the Field Engineer, Frederick S. Richards, EI4:Oct 77:287:13265
- Engineers Forum Marked by Controversy, CE:July 77:82
- Metrication — An Australian Non-Event, Carter H. Harrison, Jr., CE:Oct 76:51
- National Land-Use Policy: Is it Needed?, Daniel A. Dreyfus, UPI:Aug 76:9:12324
- Productivity and Regulation, James E. Gast, Preprint No.2837, Apr 77, 9pp.
- Productivity in the Construction Industry, Nelson A. Rockefeller, PROD:Aug 76:II-5
- Review of Construction Noise Legislation, Alan S. Hersh, Chmn., CO1:Mar 77:123:12804
- Some Ethical Moral Legal Factors of Professional Conduct, Joseph McCabe, PAC77:Mar 77:38
- The Subject is Pensions: Pension Group Outlines Plans for Legislative Push, CE:June 77:82
- Summary — Status of Dam Safety, Charles F. Corns, EFEDS:Nov 76:57
- Transportation, Land Use, and Air Quality Programs, Charles E. Dare, TE2:May 76:411:12124
- Trends in P.E. License Renewal Requirements, Robert D. Reckert, EI4:Oct 75:449:11667

Length

- Length of Hydraulic Jump, Subhash C. Mehrotra, HY7:July 76:1027:12272

Lenses (Soils)

- Decision-Making for Ordinary Foundations on Rock, Raymond P. Miller, GT76:Aug 76:II-22

Levees

- Disaster Response to 1973 Mississippi River Flood, Robert I. Kaufman, Preprint No.3046, Oct 77, 29pp.
- A Geomorphic Study of the Lower Mississippi River, Brien R. Winkley, Preprint No.2990, Oct 77, 31pp.
- Underseepage, Mississippi River Levees, St. Louis District, Charles I. Mansur and Robert I. Kaufman, GTAW:77:385

Leveling

- Potential for Land Subsidence Due to Reduction of Artesian Head in the Atlantic Coastal Plain, George H. Davis, HY77:Aug 77:152

Vertical Control for Independent Models Blocks, Wolfgang Faig, Sabry El Hakim and Thomas Mathew, SU1:Sept 77:37:13229

Liabilities

Value Orientation in Engineering Education, Thomas L. Theis and Jerry J. Marley, PAC77:Mar 77:72
What To Do When the Suit is Served, Eugene B. Waggoner and John P. Bachner, CE:Apr 76:63

Liability

Construction Management of Washington Metro, Roy T. Dodge, Preprint No.2997, Oct 77, 15pp.
Criminal Liability of the Field Engineer, Frederick S. Richards, EI4:Oct 77:287:13265
Dam Safety Guidelines — Responsibility and Liability, William A. Wahler, EFEDS:Nov 76:479
Evaluation of Contractor Comments on the Quality of Specifications, From the Viewpoint of a Representative of the Owner, Edwin Jones, Preprint No.3066, Oct 77, 16pp.
The Field Engineer: Political and Legal Scapegoat?, Frederick S. Richards and Virginia Fairweather, CE:July 77:77
Highlights of San Diego Convention, CE:June 76:67
Subsurface Investigations for Pipeline Projects, Lawrence R. Carter, Preprint No.2871, Apr 77, 9pp.

Liability Insurance

Dam Safety Guidelines — Responsibility and Liability, William A. Wahler, EFEDS:Nov 76:479
Liability Claims Against Soils Firms Slashed Dramatically, CE:Aug 77:67
Value Orientation in Engineering Education, Thomas L. Theis and Jerry J. Marley, PAC77:Mar 77:72

Licenses

A Case for Demonstration of Proficiency, Russel C. Jones, PAC77:Mar 77:217
Maintenance of Competency, James V. Parcher, PAC77:Mar 77:304
The Market Place — A Determination of Proficiency, Rex A. Tynes, PAC77:Mar 77:209
Qualifications for Continued Engineering Practice, John P. Gnaedinger, PAC77:Mar 77:312
Qualifications for Continued Practice, Alfred C. Ingersoll, PAC77:Mar 77:235
The Story Behind the Recent National Scandals Involving Engineers, Brian J. Lewis, EI2:Apr 77:91:12842
Trends in P.E. License Renewal Requirements, Robert D. Reckert, EI4:Oct 75:449:11667
Voluntary Certification for Practicing Surveyors, David K. Blythe, PAC77:Mar 77:265

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An Experience in Standardization of Nuclear Power Plants, B. K. Kanga, CE:July 77:47

Life Cycles

Value Engineering Made Mandatory on EPA Projects Over \$10,000,000, Harold Tufty, CE:Sept 76:101

Lift

Fluid Mechanics of Capsule Pipelining, Henry Liu, EM77:May 77:539
High Reynolds Number Oscillating Flow by Cylinders, Tokuo Yamamoto and John H. Nath, CE15:July 76:2321
Transverse Forces on Vertical Cylinders in Waves, Michael de St. Q. Isaacson and David J. Maull, WW1:Feb 76:49:11934
Wave Forces on Vertical Circular Cylinder, Subrata K. Chakrabarti, Allan L. Wolbert and William A. Tam, WW2:May 76:203:12140

Lightweight Aggregates

Synthetic Aggregate From Incinerator Residues, Horace R. Blank, EM1:Feb 76:31:11898

Lime

Dewatering Chemical-Primary Sludges, David Di Gregorio and Gerald L. Shell, EE5:Oct 76:1087:12474

Lime Soil Mixtures

Engineer's Notebook: Simple Field Controls for Soil-Lime Construction, Robert M. Nady and Richard L. Handy, CE:Feb 77:60

Limestone

Dynamic Response of Tropical Marine Limestone, Zen Yang and Allen W. Hatheway, GT2:Feb 76:123:11893
Incinerator Residue Disposal in Chicago, Theodore R. Maynard, GT77:June 77:773
Limestone Barriers to Neutralize Acidic Streams, Frank H. Pearson and Archie J. McDonnell, EE3:June 75:425:11382
Use of Crushed Limestone to Neutralize Acid Wastes, Frank H. Pearson and Archie J. McDonnell, EE1:Feb 75:139:11131

Limit Analysis

Bearing Capacity by Variational Method, Michael Garber and Rafael Baker, GT11:Nov 77:1209:13330
Lower Bound Limit Analysis of Rectangular Slabs, Kanakapura S. Subba Rao, N. Rangalah and B. V. Ranganatham, ST11:Nov 77:2193:13367

Limit Design

Limit Design of Mine Pillars Under Uncertainty, William G. Parisseau, RM16:Sept 75:287

Limit Design Method

Biaxial Interaction Exponent for Concrete Columns, Nanjappa Shanmugasundaram, ST12:Dec 77:2295:13408
Design of Axially Loaded Stiffened Plates, Michael R. Horne and Rangachari Narayanan, ST11:Nov 77:2243:13344
Elastoplastic Analysis of Coupled Shear Walls, Kumarapillai K. Nayar and Alexander Coull, ST9:Sept 76:1845:12401
Limit States Basis for Cold-Formed Steel Design, Sree R. Parimi and Niels C. Lind, ST3:Mar 76:475:12009
Post-Crushing Behavior of Unbound Concrete Beams, Mohammad Iqbal and David S. Hatcher, ST11:Nov 75:2303:11719
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- Liquefaction**
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 River Regulating Works — Middle Mississippi River, Claude N. Strauser and Gary W. Schwartz, Preprint No.2857, Apr 77, 25pp.
 Stabilizing the Island 63 Reach, Mississippi River, David L. McNutt, Preprint No.2882, Apr 77, 22pp.
 Underseepage, Mississippi River Levees, St. Louis District, Charles I. Mansur and Robert I. Kaufman, GTAW:77:385

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Missouri River Prototype Measurements, Wayne G. Dorough and Jack L. Mielke, Preprint No.3053, Oct 77, 30pp.

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Light Rail System Evaluation as an Alternative for the Detroit Region, Ramesh M. Khona and Robert J. Munchinski, Preprint No.3035, Oct 77, 29pp.
 Operating and Maintenance Costs for Rail Rapid Transit, Roger P. Roess, Martin F. Huss and Claire Sokwicklis, TE3:May 77:421:12942

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Parametric Analysis of Rapid Transit Feasibility: A Case Study for a Medium-Size Metropolitan Area, Walter Cherwony and Lewis Polin, Preprint No.2919, Oct 77, 25pp.

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Public Response to Carpooling Programs, Alice E. Kidder, Bruce Morgan and Arthur Saltzman, TE3: Aug 76:571:12340
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 Participative Decision Making in Construction, John D. Borchering, CO4:Dec 77:567:13429

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 Center City Philadelphia Rail Commuter Connection, Walter Cherwoniy and H. Richard Orth, Preprint No.2926, Oct 77, 28pp.

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- Dallas Expressway Quickly Rehabilitates With Aid of Giant Cold-Milling Machine, Eugene E. Dallaire, CE:Dec 77:72

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 Airfield Pavement Evaluation — The Airline View, C. Philip Weisz, Preprint No.3115, Oct 77, 10pp.
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 King Post Truss System Cuts Roof Framing Cost by 30%, Charles H. Thornton and Paul A. Gossen, CE:June 77:49

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- Comparison of Rapid Transit Planning Efforts, Carl R. West and Wes R. Fryszacki, Jr., Preprint No.2977, Oct 77, 30pp.
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- Contribution to Selection of Railroad Ballast, Paul N. Gaskin and Gerald P. Raymond, TE2:May 76:377:12134
- Criteria for Measuring Rail Transit Efficiency, Roger P. Roess, UT-76:July 76:222
- Effects of BART on Urban Development, Michael V. Dyett and Emilio Escudero, Preprint No.3100, Oct 77, 24pp.
- Effects of BART on Work Journeys in the Bay Area, Alistair Sherret and Joel Markowitz, Preprint No.3094, Oct 77, 22pp.
- Energy Conservation Through Transit, Phillip S. Shapiro and Richard H. Pratt, UT-76:July 76:384
- Environmental Impacts of BART and People's Responses, Donald L. Graff and Robert L. Knight, Preprint No.3099, Oct 77, 28pp.
- Guidelines for Evaluating the Cost-Effectiveness of Rapid Transit Projects, Robert E. Skinner, Jr. and Thomas B. Deen, Preprint No.3065, Oct 77, 27pp.
- Highlights of Transportation Research Board Meeting, CE:May 77:74
- The Impact of BART's Construction and Operations on Local Government Policy Decisions, Linda S. Graebner and Tom Higgins, Preprint No.3102, Oct 77, 26pp.
- Improving Efficiency of Existing Rapid Transit Facilities, John F. Hoban, UT-76:July 76:264
- Integrated Evaluation from a Regional Perspective, Jane Rodgers and George V. Wickstrom, UPI:Aug 76:125:12338
- Joint Use of Railway Facilities by Freight and Metropolitan Transit Services, Dietrich R. Bergmann, TE1:Jan 77:157:12686
- Key Elements of Transit Alternatives Analysis, Walter Kudlick and Robert S. Nielsen, Preprint No.2980, Oct 77, 19pp.
- Light Rail System Evaluation as an Alternative for the Detroit Region, Ramesh M. Khona and Robert J. Munchinski, Preprint No.3035, Oct 77, 29pp.
- Light Rail Transit as a Means to Improved Urban Transport Efficiency, George R. Beetle, UT-76:July 76:270
- Light Rail Transit in Pittsburgh, Pennsylvania, Theodore C. Hardy, Preprint No.3074, Oct 77, 20pp.
- Managing the Rush Hour, Barry J. Kaas, Preprint No.3082, Oct 77, 24pp.
- Operating and Maintenance Costs for Rail Rapid Transit, Roger P. Roess, Martin F. Huss and Claire Sokwicksi, TE3:May 77:421:12942
- Operational Efficiency of Suburban Railroads, Donald O. Eisele, UT-76:July 76:231
- Parametric Analysis of Rapid Transit Feasibility: A Case Study for a Medium-Size Metropolitan Area, Walter Cherwon and Lewis Polin, Preprint No.2919, Oct 77, 25pp.
- Progress Report on Preliminary Engineering — EIR Work for a 4-Element Regional Transportation Development Program in the Los Angeles Metro Area, Richard Gallagher, Preprint No.3097, Oct 77, 11pp.
- Public Acceptance of New Mass Transit System, Roger B. Trent and Cooper N. Redwine, UPI:Aug 76:225:12361
- The Regional Economic and Fiscal Impacts of BART, Richard Greffe and Angus N. McDonald, Preprint No.3101, Oct 77, 23pp.
- The Resurgence of Light Rail Transit, Martin Lenow, TE2:May 76:229:12131
- Social Impacts of BART Service, David Minkus, Preprint No.3103, Oct 77, 18pp.
- State-of-the-Art of Ballastless Track at-Grade, Walter L. Wheeler, TE1:Feb 76:131:11929
- Underground Construction Down Under, Alfred M. Petrofsky and James A. Ramsay, Preprint No.2971, Oct 77, 30pp.

- Urban Transportation Efficiency, Kumares C. Sinha, Co-Chmn. and Carl S. Selinger, Co-Chmn., UT-76: July 76
- Urban Tunnels—An Option for the Transit Crisis, Matt S. Walton and Richard J. Proctor, TE4:Nov 76:715:12532
- Use of Finite Element Analyses for Railcar Design, Michael J. Dennis, TE1:Feb 76:105:11921
- Washington Metro: Our National Model, Robert S. O'Neil and Edmund A. Fairhead, CE:Sept 76:70

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- Tehran International Airport, Walther Prokosch, TE2:Mar 77:223:12781

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- Reaeration Coefficients of Streams—State-of-the-Art, Ronald E. Rathbun, HY4:Apr 77:409:12878

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 Reclamation of Open-Pit Quarries for Multiple Uses, Richard W. Karn, UP1:July 77:127:13076
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 Water Reclamation: Technology and Public Acceptance, Ralph Stone, EE3:June 76:581:12193
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 Mountain Recreation: Energy Versus Mobility, Beat A. Von Allmen, Preprint No.3043, Oct 77, 19pp.
 Multiobjective Trade-Off Risks in Reservoir Operation, Thomas E. Croley, II and Kuchibhotla N. Raja Rao, Preprint No.2863, Apr 77, 26pp.
 Outdoor Recreation Opportunities at Water Resource Projects, Mark R. King, Preprint No.2982, Oct 77, 2pp.
 Planning Safe and Efficient Recreation Bike Paths, Thomas C. Ferrara, Preprint No.2939, Oct 77, 29pp.

- Proposed "Improvements" of Kaimu Beach, Hawaii, Doak C. Cox, Franciscus Gerritsen and Theodore T. Lee, CE15:July 76:1552

- Recreational Uses of Flood Control and Water Conservation Facilities, John L. Wallace, Preprint No.3075, Oct 77, 24pp.

- The Recycling of a River, Kenneth R. Wright and William C. Taggart, CE:Nov 76:42

- Scheduling of Drawbridge Operations, Ira S. Kuperstein, TE6:Nov 77:729:13332

- Social Impacts of BART Service, David Minkus, Preprint No.3103, Oct 77, 18pp.

- Transportation Strategies for Parks and Recreation Areas, Vincent R. Desimone and Agnes Zierenberg, Preprint No.3037, Oct 77, 25pp.

Recreation Facilities

- Multiple Aspects of Water Resource Project Management, Clyde Allen Redmon, Preprint No.2929, Oct 77, 9pp.
 Reclamation of Open-Pit Quarries for Multiple Uses, Richard W. Karn, UP1:July 77:127:13076
 An Unusual Challenge—American River Parkway, Don H. Nance and Walt S. Ueda, UP1:July 77:103: 13077

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Hydraulic Collection and Disposal of Refuse, Jochen Kuhnner and Peter M. Meier, EE4:Aug 76:769:12296

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Are We Overplanning Our Projects?, Charles S. Freed, Preprint No.2892, Apr 77, 12pp.

Basic Considerations for Offshore Airport Construction, Altaf Hussain, CO1:Mar 77:7:12777

City's Topographic Mapping System Saves Time, Money and is More Accurate, CE:Sept 76:98

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Considerations for Regional Energy Planning, Charles L. Roxin and John D. Keenan, UP1:July 77:69:13042

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Human Settlement Projects and Impacts in Jakarta (Abstract), Brian Ellis, Preprint No.2920, Oct 77, 1pp.

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Light Rail System Evaluation as an Alternative for the Detroit Region, Ramesh M. Khona and Robert J. Munchinski, Preprint No.3035, Oct 77, 29pp.

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A Model of Nutrient Uptake in Marsh Ecosystems, Lawrence A. Burns and R. Bruce Taylor, III, Preprint No.3056, Oct 77, 30pp.

NORCAL Regional Port Planning Studies, Frank C. Boerger, Preprint No.2994, Oct 77, 32pp.

Overview of Residuals Management in Pennsylvania, Gary L. Merritt and Gary R. Galida, EFLA:Sept 76:124

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The Regional Economic and Fiscal Impacts of BART, Richard Grefe and Angus N. McDonald, Preprint No.3101, Oct 77, 23pp.

Regional Transport Development and Economic Growth, Kenneth A. Brewer and Robert O. Richards, Jr., TE2:May 76:271:12126

Sensitivity of Trip Distribution to Subarea Focusing, Nancy L. Nihan and Jacques Lassabliere, TE3:Aug 76:555:12317

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Summary of Land-Use Policy Papers, Charles B. Nottess, UP1:Aug 76:147:12330

Tocks Island Project — Resolving a Classic in Dam Controversies, Raymond Tillman and Herbert Howard, CE:June 77:56

Trip Generation Analysis for Regional Studies, Arun Chatterjee, Donald R. Martinson and Kumares C. Sinha, TE6:Nov 77:825:13358

Two-Dimensional Logit Modal Split Model, Walter Chierwony and Jerome Lutin, TE3:Aug 76:525:12299

Urban Runoff Pollution and Water Quality Planning, William Whipple, Jr., Preprint No.3091, Oct 77, 25pp.

Water and Energy Systems: A Planning Model, E. Downey Brill, Jr., S. Giray Velicoglu and Robert W. Fuessle, WR1:May 77:17:12902

Water—An Element of Land-Use and Urban Growth Policies, William R. Walker and William E. Cox, UP1:Aug 76:81:12339

1976 Big Thompson Flood and Flood Recovery Planning, Larry A. Muller and Patrick F. Mulhern, Preprint No.3105, Oct 77, 27pp.

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- Cost and Pricing Relationships in Water Supply, Robert M. Clark, EE2:Apr 76:361:12025
- Resilient Modulus and Poisson's Ratio for Frozen and Thawed Silt and Clay Subgrade Materials, Edwin J. Chamberlain, David M. Cole and Thaddeus C. Johnson, Preprint No.3011, Oct 77, 53pp.
- Stochastic Models for Groundwater Levels Using Causal Relationships (Abstract), C. T. Bathala, A. Ramachandra Rao and J. A. Spooner, HY77:Aug 77:211
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- Productivity and Regulation, James E. Gast, Preprint No.2837, Apr 77, 9pp.

Regulations

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- Considerations in Land Disposal of Hazardous Wastes, Trygve K. Bakkom, EFLA:Sept 76:1
- Cost of Social and Environmental Regulations in Construction, Enno Koehn and David Shank, Preprint No.2912, Oct 77, 13pp.
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- Seismic Rehabilitation of Mission High School, San Francisco — A Case Study, Kenneth G. Neumann and Daniel Shapiro, Preprint No.3027, Oct 77, 21pp.
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- Vibroreplacement and Reinforced Earth Unite to Strengthen a Weak Foundation, Andy Munoz, Jr. and Robert M. Mattox, CE:May 77:58

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- Analysis of Reinforced or Cellular Panels and Decks, Donald L. Dean and William W. Payne, Jr., Preprint No.3013, Oct 77, 30pp.
- The Behavior During Construction of the Dupont Circle Subway Station Lining, Gary S. Brierley and Edward J. Cording, EFGS:Oct 76:675
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- Ferrocement Load-Bearing Wall Elements, Prakash Desai and Arun D. Joshi, ST9:Sept 76:1903:12420
- Field Study of Tunnel Prefabrication, Gregory E. Korbin and Tor L. Brekke, Preprint No.2986, Oct 77, 30pp.
- Fifty-Year Developments in High Strength Concrete, Colin D. Johnston, CO4:Dec 75:801:11757
- International Repair Techniques — Evaluation of Sixth World Conference on Earthquake Engineering Contributions, Henry J. Degenkolb, Preprint No.3009, Oct 77, 16pp.
- Keynote Address — Shotcrete for Ground Support, E. E. Mason, EFGS:Oct 76:5
- A Method of Computing a Rock Reinforcement System which is Structurally Equivalent to an Internal Support System, John A. Bischoff and John D. Smart, RM16:Sept 75:179
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- Systems Design for Air-Supported Structures, Anil K. Kar, Preprint No.2867, Apr 77, 18pp.

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- Urban Runoff Control Master Planning, Murray B. McPherson, Preprint No.2825, Apr 77, 19pp.
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- Quality of Water for Irrigation, Robert S. Ayers, IR2: June 77:135:13010
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- Quality Considerations for Water Supply Evaluations, David V. MacDonald, Kline P. Barney, Jr. and Richard A. Smith, Preprint No.2855, Apr 77, 19pp.
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- Stochastic Models of Sediment Motion on Flat Bed, Che S. Hung and Hsieh Wen Shen, HY12:Dec 76: 1745:12639
- Tracing Estuarine Sediments by Neutron Activation, Richard M. Ecker, John F. Sustar and William T. Harvey, CE15:July 76:2009
- Unified View of Wash Load and Bed Material Load, Emmanuel Partheniades, HY9:Sept 77:1037:13215
- Urban Sediment Problems: A Statement on Scope, Research, Legislation and Education, Harold P. Guy, Chmn., HY4:Apr 75:329:11256
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- Sand Circulation Pattern at Price Inlet, South Carolina, Duncan M. FitzGerald, Dag Nummedal and Timothy W. Kana, CE15:July 76:1868
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- ARS Research on Sediment Transport, Yield and Properties, August R. Robinson and Kenneth G. Renard, Preprint No.2879, Apr 77, 22pp.

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Seismic Ground Motion Parameter Relations, Robin K. McGuire, Preprint No.2913, Oct 77, 20pp.

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Design of Plastics Structural Components — Synopsis and Outline of Proposed ASCE Manual of Engineering Practice, Frank J. Heger, Richard E. Chambers and Albert G.H. Dietz, Preprint No.3078, Oct 77, 29pp.

Doubled-Curved Element for Mooney-Rivlin Membranes, John W. Leonard and Vijay K. Verma, EM4:Aug 76:625:12333

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- Resilient Modulus and Poisson's Ratio for Frozen and Thawed Silt and Clay Subgrade Materials, Edwin J. Chamberlain, David M. Cole and Thaddeus C. Johnson, Preprint No.3011, Oct 77, 53pp.
- Strain Rate Behavior of Compacted Silt, Nikhilesh Roy and Parth Sarathi, GT4:Apr 76:347:12024
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- Earthquake Response of Nuclear Power Facilities, James J. Johnson and Robert P. Kennedy, Preprint No.2962, Oct 77, 26pp.
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- Seismic Soil-Structure Interaction Effects at Humboldt Bay Power Plant, Julio E. Valera, H. Bolton Seed, C. F. Tsai and John Lysmer, GT10:Oct 77:1143:13306
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- Centralization/Decentralization: Divergent Power Trends for the 21st Century, Harry E. Bovay, Jr., Preprint No.2873, Apr 77, 10pp.
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- Tomorrow's Energy: Power from Inner and Outer Space, Jerry Grey, Preprint No.2858, Apr 77, 34pp.

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- Application of Solar Energy to Schools and Residences, Albert Weinstein, Richard T. Duncan, Jr. and William C. Sherbin, Preprint No.2908, Apr 77, 10pp.

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- Empirical Effective Width Formula, Niels C. Lind, Mayasandra K. Ravindra and Gerald Schorn, ST9: Sept 76:1741:12426
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- Soil Moisture as a Factor in Subgrade Evaluation, Ting Y. Chu, W. Kenneth Humphries, Richard L. Stewart, Sukhdev S. Guram and Spencer N. Chen, TE1:Jan 77:87:12693

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- Design Sensitivity Analysis with Substructuring, Jasbir S. Arora and Ashok K. Govil, EM4:Aug 77: 537:13103
- Dynamic Analysis Using Modal Synthesis, Anand K. Singh, Preprint No.2899, Apr 77, 24pp.
- Free Vibration Analysis Using Substructuring, Gordon H. Holze and Arthur P. Borelli, ST12:Dec 75:2627:11788
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Subsurface Structures

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- Segmental Liner for Soft Ground Tunnels, Louis C. Tartaglione, CO2:June 77:227:13011

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- Washington Metro: Our National Model, Robert S. O'Neil and Edmund A. Fairhead, CE:Sept 76:70

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- Structures for Power Stations in Ontario, Canada, Wojciech A. Krajewski, PO2:Nov 76:179:12527

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- Static and Dynamic Wind Effects on Cooling Tower Shells, Hans-Jurgen Niemann, Preprint No.3031, Oct 77, 29pp.

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Barrier Island Dynamics: Overwash Processes and Eolian Transport, Stephen P. Leatherman, CE15: July 76:1958

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Design and Model Tests of a Shore-Front Revetment-Ditch System for a Nuclear Power Station (Abstract), Yung-Chi Chang, N. B. Lemieux and John C. Shiau, HY77:Aug 77:118

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New Adjustment of North American Datum and Surveyor, John D. Bossler, William E. Stephens, James R. Plasker, Wesley V. Hull and Douglas R. Lee, SU1:Oct 75:115:11657

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- Use of the Mini-Computer for Interactive Structural Design, James M. Fisher, LeRoy A. Lutz and Gary Koser, Preprint No.3004, Oct 77, 31pp.

Suspended Load

- Fate of Metals in Wastewater Discharge to Ocean, Nareesh K. Rohatgi and Kenneth Y. Chen, EE3: June 76:675:12194
- A Model for Sediment Transport and Delta Formation, R. C. Farmer and W. R. Waldrop, CS77:Nov 77:102
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- A Model for Sediment Transport and Delta Formation, R. C. Farmer and W. R. Waldrop, CS77:Nov 77:102
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- Unified View of Wash Load and Bed Material Load, Emmanuel Partheniades, HY9:Sept 77:1037:13215

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- A Program to Identify and Control Pollution from Agricultural Drainage, R. E. Merrill, Ronald M. Van De Pol and W. E. Ryley, Preprint No.3069, Oct 77, 19pp.
- Statistical Characterization of Urban Pollutants Loading Rates, Rameshwar Singh, Preprint No.2833, Apr 77, 22pp.

Suspended Structures

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- Compacted Clays: A Symposium — Structure and Strength Characteristics, H. Bolton Seed and Clarence K. Chan, GTAW:77:707

- Design of Tunnels in Swelling Rock, Herbert H. Einstein and Nutal Bischoff, RM16:Sept 75:185
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- Salt Removal Efficiencies on Land Disposal of Swine Waste, Harold E. Grier, Gian C. Gupta and Suresh C. Tiwari, EE4:Aug 77:551:13117

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- Systems Analysis of Refuse Disposal Alternatives, David M. Miller and Robert J. Craig, EE5:Oct 77: 935:13273
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- Interrelationship Between Planning and Funding, Mark G. Goode, Jr., TE6:Nov 77:703:13354
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- Optimum Spacing of Supply Centers, Marvin Gates and Amerigo Scarpa, TE6:Nov 77:783:13356
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Ultimate Torque of Reinforced Concrete Beams, David J. Victor, Narayanan Lakshmanan and Narayanan Rajagopalan, ST7:July 76:1337:12249

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A Case Study of Buffalo's Rail Transit Development, Thomas M. Wilson, Preprint No.3072, Oct 77, 17pp.

Estimating Transportation Mode Utilities, Gary G. Makowski, M. M. Bakr and Kumares C. Sinha, TE6:Nov 77:807:13353

Light Rail Transit in Pittsburgh, Pennsylvania, Theodore C. Hardy, Preprint No.3074, Oct 77, 20pp.

Parametric Analysis of Rapid Transit Feasibility: A Case Study for a Medium-Size Metropolitan Area, Walter Cherwonny and Lewis Polin, Preprint No.2919, Oct 77, 25pp.

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Urban Travel Demand Models with Competitive Modes, Paul J. Ossenbruggen and Alex Li, TE3: Aug 76:585:12314

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Changing Perspectives in Highway Research, Robert S. Foote, Preprint No.2866, Apr 77, 24pp.

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Changing Perspectives in Highway Research, Robert S. Foote, Preprint No.2866, Apr 77, 24pp.

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- Downtown People Mover (DPM) System Planning, Murthy V.A. Bondada and Robert J. Dietz, Preprint No.3036, Oct 77, 28pp.

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Nonlinear Analysis of Reticulated Space Trusses, Dharapuram S. Jagannathan, Howard I. Epstein and Paul P. Christiano, ST12:Dec 75:2641:11799

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Unique Team Effort on Washington Subway Project, Delon Hampton and David Novick, EI:Jan 76:129:11872

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Dsc, GTAW:77:428, of "Stabilization of Materials by Compaction", GTAW:77:409

Zeidler, Ryszard B.

Coastal Dispersion of Pollutants, WW2:May 76:235: 12121

TR:142:336

Dsc, WW3:Aug 77:401:13097, of "Similitude in Coastal Engineering", WW3:Aug 76:317:12293

Zeigler, E. R.

Friction, Grade, and Alignment Studies for Corrugated Plastic Drain Tubing, with Ray J. Winger, Jr. and Lyman S. Willardson, IR77:July 77: 1-146

Zelinski, Richard W.

Transient Modeling of Point and Non-Point Sources, with Charles R. Hall and Kenneth C. Wiswall, Preprint No.2870, Apr 77, 30pp.

Zia, Paul

See David W. Johnston, ST7:July 75:1313:11421

Ziegler, George J.

Dsc, CE:Apr 77:51, on Desperate Need to Slash Construction Cost of New Subways, CE:Dec 76:37

Zielinski, Zenon

See Osama Moselhi, TN: ST12:Dec 77:2426:13380

Zierenberg, Agnes

See Vincent R. Desimone, Preprint No.3037, Oct 77, 25pp.

Zimmerman, R. Eric

Mathematical Model for Solid Waste Settlement, with Wayne W.H. Chen and A. G. Franklin, GT77: June 77:210

See Wayne W.H. Chen, GT77:June 77:136

See Kenneth H. Kastman, GT77:June 77:831

Zimmie, Thomas F.

Disposal of PCB Contaminated Sediments in the Hudson River, with T. James Tofflemire, GT77: June 77:850

Zoino, William S.

Dsc, GT11:Nov 77:1359:13307, of "Responsibility for Trenching and Excavation Design", GT4:Apr 77:327:12882

Zolkov, Elias

Dsc, GT10:Oct 76:1128:12439, of "Statistics of Liquefaction and SPT Results", GT11:Nov 75:1135: 11701

Zovne, Jerome J.

Model to Evaluate Feedlot Runoff Control Systems, with Theodore A. Bean, James A. Koelliker and John A. Anschutz, IRI:Mar 77:79:12822

Zupan, Jeffrey M.

Pedestrians in a City: Urban Space for Pedestrians, UT-76:July 76:314

Dsc: John F. Waterman, UT-76:July 76:318

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See John T. Novak, EE5:Oct 77:815:13262

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Dsc, ST11:Nov 77:2291:13309, of "Buckling of Stayed Columns", ST4:Apr 77:839:12894

Dsc, ST12:Dec 77:2428:13380, of "Simple Illustration of Frame Instability", ST1:Jan 77:1: 12658

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A Report From the Executive Director: Society Dues to Rise Next Year, CE:Aug 77:51



